Exhibit 2

Page 1

1   UNITED STATES DISTRICT COURT

                    DISTRICT OF SOUTH CAROLINA

2   COLUMBIA DIVISION

3

    THE SOUTH CAROLINA STATE CONFERENCE OF

4   THE NAACP, et al.,

5

                    Plaintiffs,

6

7   vs.   CASE NO. 3:21-cv-03302-MBS

8   TJH-RMG

9   THOMAS C. ALEXANDER, et al.,

10   Defendants.

11

12   CONGRESSIONAL PLAN LITIGATION

13

14 VTC

    DEPOSITION OF: BAODONG LIU, PH.D.

15   (Appearing by VTC)

16

    DATE: August 4, 2022

17

18 TIME: 12:21 p.m.

19

    LOCATION: 4231 South 2700 East

20   Salt Lake City, UT

21

    TAKEN BY: Counsel for the Defendants

22

23 REPORTED BY: Susan M. Valsecchi, CRR

                     Registered Professional Reporter

24   (Appearing by VTC)

25

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 1      APPEARANCES OF COUNSEL:
 2           ATTORNEYS FOR THE PLAINTIFF
 3               NAACP LEGAL DEFENSE & EDUCATIONAL
                 FUND, INC.
 4               BY:  JOHN S. CUSICK
                      LEAH C. ADEN
 5                    (Appearing by VTC)
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             ATTORNEYS FOR HOUSE DEFENDANTS:
 9
                 NEXSEN PRUET, LLC
10               BY:  ANDREW MATHIAS
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                 amathias@nexsenpruet.com
13
14            ATTORNEYS FOR SENATE DEFENDANTS:
15               JONES DAY
                 BY:  JOHN M. GORE
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19
20           ATTORNEYS FOR ELECTION COMMISSION
                 DEFENDANTS:
21
                 BURR & FORMAN, LLP
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                 Columbia, SC 29201
24               (803) 753-3241
                 jtrinklev@burr.com
25
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1   ALSO PRESENT VIA VTC:

2   Cynthia Nygord

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5

6   (INDEX AT REAR OF TRANSCRIPT)

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1   THE COURT REPORTER: The attorneys

2   participating in this deposition acknowledge

3   that I am not physically present in the

4   deposition room and that I will be reporting

5   this deposition remotely.

6   They further acknowledge that in lieu

7   of an oath administered in person, I will

8   administer the oath remotely.

9   The parties further agree that if the

10   witness is testifying from a state where I

11   am not a Notary that the witness may be

12   sworn in by an out-of-state Notary.

13   If any party has an objection to this

14   manner of reporting, please state it now.

15   [NO RESPONSE]

16   THE COURT REPORTER: Hearing none, I

17   will proceed.

18   BAODONG LIU, PH.D.

19   being first duly sworn, testified as follows:

20   EXAMINATION

21   BY MR. GORE:

22   Q.   Good afternoon, where I am, and good

23   morning where you are, Dr. Liu.

24   A.   Thank you. Good afternoon to you.

25   Q.   Thank you.

Page 5

  1   My name is John Gore. I'm with the law

  2   firm of Jones Day and I represent the Senate

  3   Defendants, Senate President Thomas Alexander and

  4   Senate Judiciary Committee Chairman Luke Rankin, in

  5   connection with the redistricting challenge brought

  6   by the South Carolina NAACP in the United States

  7   District Court for the District of South Carolina.

  8   Do you understand that you're appearing

  9   in connection with that case?

 10   A.   Could you repeat the question? It's a

 11   little bit hard to hear clearly.

 12   Q.   Sure. Do you understand that you're

 13   appearing in the South Carolina congressional

 14   redistricting case?

 15   A.   Yes, I do.

 16   Q.   Wonderful. I would like to get some

 17   preliminary ground rules out of the way.

 18   You have just been placed under oath.

 19   Do you understand that means that you

 20   have an obligation to tell the truth?

 21   A.   Yes.

 22   Q.   The court reporter is here to take down

 23   your testimony and the court reporter will need

 24   verbal answers for the record.

 25   The court reporter cannot record nods

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 1     of the head or shakes of the head or hand gestures
 2     or anything like that.
 3                 So are you able to provide verbal
 4     answers today?
 5          A.   Yes.
 6          Q.   Are you able to testify truthfully
 7     today?
 8          A.   Yes.
 9          Q.   Is there any reason that you are unable
10     to testify truthfully today?
11          A.   No.
12          Q.   And are you being represented today by
13     Mr. Cusick?
14          A.   Yes.
15          Q.   And Mr. Cusick may have objections to
16     my questions, but unless he instructs you not to
17     answer, you can go ahead and answer my question.
18                 Do you understand that?
19          A.   Yes.
20          Q.   And if you don't understand a question,
21     will you ask me to clarify it?
22          A.   Yes, I will.
23          Q.   And if you answer a question I'm going
24     to assume that you understood it; is that fair?
25          A.   Yes.
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 1              Q.   And if you need a break for any reason,

 2    please let me know and I'll accommodate you.

 3              My only request is that if there's a

 4    question pending, you answer the question before we

 5    take a break.

 6              Is that okay?

 7              A.   Sure, thank you, yes.

 8              Q.   Great.  So I would like to just begin,

 9    Dr. Liu.  First of all, will you say your name for

10    the record and spell your last name.

11              A.   My name is Baodong Liu, last name Liu,

12    L-i-u.

13              Q.   And Dr. Liu, where are you located

14    today?

15              A.   I'm in Salt Lake City.

16              Q.   Are you at home or in your office?

17              A.   I am right at my home.

18              Q.   And is anyone in the room with you?

19              A.   No.

20              Q.   Did you bring any --

21              A.   Everybody had to get out.  No, I'm here

22    alone.

23              Q.   Did you bring any documents or

24    materials with you to today's deposition?

25              A.   I do have the zip folder with all of
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1   the exhibits that you submitted and that I

2   received, I believe, two weeks ago. I have those

3   in my computer right now.

4   Q.   And did you bring any other documents

5   or materials?

6   A.   No.

7   Q.   And the documents and materials you did

8   bring, are there any handwritten notes on those?

9   A.   No.

10   Q.   Dr. Liu, could you tell me what you did

11   to prepare for today's deposition?

12   A.   Yes, I have gone back to what I wrote

13   originally in my expert report for this case and I

14   tried to memorize facts that I stated in the report

15   and I have gone back to the data I ran and have

16   tried my best to, for the final time, double check

17   everything I submitted.

18   And I have received a few documents

19   from the counsel that is representing the

20   Plaintiffs, so we've talked about those documents

21   and so I'm aware of those documents and I have

22   tried my best to read, especially the exhibits,

23   especially those new documents that I had never

24   seen before. So in the last few days -- especially

25   the last two days -- I tried to understand what

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1   those documents were. So that's basically what I

2   have done.

3   Q.   How long did you spend doing all of

4   that?

5   A.   In terms of prep for this whole

6   deposition, I would say more than a week now.

7   Q.   How many hours would you say you spent

8   on your deposition preparation?

9   A.   Um, it's been pretty intensive

10   recently, so the last maybe five days I would say I

11   have spent four or five hours or so. And I also

12   spent maybe two days or so before I went to Europe

13   when we originally decided my deposition schedule.

14   Unfortunately I caught COVID in Paris, so we had to

15   delay that. So including all of the time that I

16   spent, I would say, on average, maybe five hours

17   per day.

18   Q.   And are you feeling better and are you

19   recovered from Covid?

20   A.   Thank you, yes, I'm -- I'm back.

21   Q.   Did you discuss your deposition with

22   anyone?

23   A.   I talked to the counsel, obviously.

24   Other than my counsel, no.

25   Q.   Which counsel did you talk to?

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 1   A.   John.

 2   Q.   And how many times did you talk to him

 3   about your deposition?

 4   A.   Um, maybe -- I don't know -- five times

 5   or so.

 6   Q.   And how long did each of those

 7   conversations last?

 8   A.   Uh, between 30 minutes and I would say

 9   one hour, 30 minutes or so.

10   Q.   So in total, how much time did you

11   spend discussing your deposition with Mr. Cusick?

12   A.   Maybe ten hours.

13   Q.   And which documents did you review in

14   preparation for today's deposition?

15   A.   I have reviewed my own report and my

16   own rebuttal and Mr. Trende, who is the opponent

17   expert, his documents, his original report; and

18   also two days ago I received his rebuttal. And

19   obviously some documents concerning procedures in

20   the exhibits folder, I reviewed.

21   And obviously I've gone back to my

22   notes from when I compiled my report, concerning

23   data, concerning background information around

24   South Carolina politics and so on.

25   So, yes, these are mainly the documents

Page 11

1   that I have reviewed.

2   Q.   You mentioned before that you had never

3   seen some of the exhibits before they were shared

4   with you. Which exhibits had you not seen before?

5   A.   I have never seen the rebuttal of

6   Mr. Trende, and also the two statistical tables, I

7   guess a spreadsheet in terms of whatever was

8   presented -- I believe it's probably Table 5, Table

9   6 -- concerning all of the districts' racial

10   breakup and statistics, demographics and so on.

11   And, yes, that's about it.

12   Others I have seen before previously, a

13   version of other documents in your folder, in your

14   zipped folder, for exhibits, so I was pretty

15   familiar with those.

16   But these are new. Especially

17   Mr. Trende's rebuttal. I never saw that before

18   until I received it two days ago.

19   Q.   Dr. Liu, I would like to ask you a few

20   questions about your engagement in this matter.

21   A.   Okay.

22   Q.   Who first contacted you about becoming

23   an expert in this case?

24   A.   I believe it was between December and

25   January of this year, December of last year. I was

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 1      retained or contacted in the beginning of January.

 2                    We had a pretty good conversation about

 3      this case.  And then I don't recall the exact day

 4      when I was retained, but personally around January

 5      of this year.

 6              Q.    And who contacted you?

 7              A.    The counsel for the LDF.

 8              Q.    Which one?

 9              A.    Leah and John, who are here today.

10              Q.    Have you, in any prior case, been

11      retained by the LDF?

12              A.    Yes, I have.

13              Q.    And what case or cases were those?

14              A.    Uh, I have two ongoing cases that I

15      have worked with LDF, being retained by them.  One

16      is an Alabama case and the other is an Arkansas

17      case.  And I have also worked before, one in

18      Alabama, and a few consulting projects with Legal

19      Defense Fund as well.  And they are all on my

20      resume that I have attached in the appendix as

21      well, all of my cases.

22              Q.    We'll get to that shortly.

23                    Are you working for free in this case,

24      Dr. Liu?

25              A.    No.
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 1              Q.    What is your -- what is the rate you're

 2       charging?

 3              A.    $300 per hour.

 4              Q.    And do you have any flat fee or cap for

 5       your work in this case?

 6              A.    Every time, we had an agreement about a

 7       limit.  And then when we are close to that maximum,

 8       I would let the counsel of LDF know and ask them to

 9       raise it and every time it's been raised when we

10       are close to that limit.

11              Q.    Has anyone else assisted you in

12       preparing your reports for this case?

13              A.    No, this report is fully my own

14       product.

15              Q.    And has anyone prepared a peer review

16       of your expert report or your rebuttal report?

17              A.    No.  Of course, I talked to counsel

18       back and forth.  I don't know whether you include

19       those in your question.

20              Q.    Well, we will talk about that.  I was

21       asking about some form of academic peer review.

22              A.    Oh.

23              Q.    Like, did you write an article or a

24       book?

25              A.    No, no.
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 1              Q.    Okay.   Bear with me one second while I
 2       try to bring up the exhibit.
 3                    Dr. Liu, I'm currently trying to pull
 4       up Tab 1 from the zip file.
 5              A.    Okay.
 6              Q.    And if I have any luck, it's also up in
 7       Exhibit Share.
 8                    I have marked this as Exhibit 1, and it
 9       was Tab 1 in your zip file.  Do you recognize this
10       document?
11              A.    Yes.
12                    (EXHIBIT 1, Senate Defendants Amended
13              Notice of Taking Deposition Of
14              Baodong Liu, Ph.D., was marked for
15              identification.)
16       BY MR. GORE:
17              Q.    What is this document?
18              A.    This document is about this case and
19       about the deposition I was supposed to take which
20       is today, um, yeah.
21              Q.    So is this the amended notice of your
22       deposition?
23              A.    It is entitled, um, amended notice,
24       yes.
25              Q.    I'm going to scroll down here to
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 1      Exhibit A which is about the fifth page down in the

 2      document.

 3                   Can you see that, Dr. Liu?

 4           A.    Did I see Tab 8?  Is that the one you

 5      are talking about right now?

 6           Q.    I'm talking about Tab 1.

 7           A.    Oh, Tab 1.

 8           Q.    And within Tab 1, it's about the fifth

 9      page, there's a sheet that's titled Exhibit A.  Do

10      you see that?

11           A.    The title is Exhibit A.  Okay, yes,

12      yes, I see that now.

13           Q.    So item A asks for a list of all books,

14      treatises, articles, publications, newspapers or

15      materials you relied on.

16                   Have you provided that to your counsel?

17           A.    Everything I have relied on is noted in

18      my report.  And there are footnotes, in detail,

19      about these books and articles.  I don't think I

20      have done anything about newspaper articles.

21                   I do rely on some online sources, like

22      Ballotpedia, concerning some candidates.  I think

23      those are also submitted by the counsel or the

24      books and articles that I noted are on public

25      domain, and I'm certain that the counsel -- my
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 1     counsel has all of that, all of those, for sure.

 2          Q.   And are there any materials that you

 3     relied on that are not cited in either your expert

 4     report or your rebuttal report?

 5          A.   No.

 6          Q.   Okay.  Item B asked for your invoices

 7     and an itemized list of your time, charges and

 8     expenses for this matter.

 9               What did you do to collect documents

10     responsive to this item?

11          A.   Every month I write an invoice or a

12     bill which documents everything I have done in the

13     case, so there's time spent and basically the

14     content about whatever I have worked on, or

15     performed analysis, or making communications with

16     counsel, et cetera, et cetera, so detailed

17     documentation.  Every month I had submitted it to

18     the counsel and I got reimbursed in that way.

19          Q.   Well, Item C refers to communications

20     you've had with counsel.  I just want to ask you

21     some specific questions about that.

22               Did counsel for the Plaintiffs provide

23     you any data for preparing your expert report or

24     rebuttal report?

25          A.   Yes.
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1   Q.   And what data did counsel provide you?

2   A.   Yes, just like every case I have

3   worked, my job is to analyze data, but the data

4   that I analyzed usually consists of two kinds of

5   data.

6   One is the demographic data, such as

7   census, VTD data concerning black voters or white

8   voters and so on.   And the other type of data is

9   about election results.

10   So under my instruction, the counsel

11   provided me the data about these two kinds of

12   original data that I needed.

13   And just like every other case, there

14   are data people working for the counsel as well,

15   who were responsible for the original data

16   collection of demographics and also election

17   outcomes.

18   And so these are the data I requested

19   and I received from the counsel, which are all

20   reported in my original expert report.   They are in

21   the tables and in the content of my narratives as

22   well.

23   (Reporter clarification.)

24   BY MR. GORE:

25   Q.   And Dr. Liu, do you know who created

Page 18

 1   the data on which you relied?

 2   A.   Yeah, there's a data team, I believe.

 3   They are the experts from ACLU data team. And they

 4   provided documentation that I requested about this

 5   particular case concerning demographics and also

 6   election outcomes and turnout and so on, yes. It's

 7   in my appendix.

 8   Q.   Do you know the names of the

 9   individuals on the data team?

10   A.   There is one person that I remember

11   named Benjamin. I don't recall the last name, but,

12   yes, Ben, is one of the team members because he was

13   in some of the meetings and some of the e-mail

14   communications, so, yes, that's how I know.

15   Q.   Is that possibly Ben Fifield, or

16   Fifield?

17   A.   Again, I have to go back to my e-mail

18   to give you the exact name, but I just remember

19   first names.

20   Q.   Has counsel provided you any

21   assumptions for this case?

22   A.   No. They provided me with the

23   Complaint, different versions of the Complaint by

24   the Plaintiffs, and I read those. And obviously we

25   communicated about this case but they never gave me

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1   so called assumptions.

2   I've done this for more than two

3   decades, so I know what each case can be and I

4   analyzed what they told me about the Complaint.

5   And everything that I recorded in my own original

6   report is truly my own. So, yeah, nobody gave me

7   any assumptions.

8   Q.   Other than the data you mentioned and

9   the Complaint, did counsel provide you any other

10   materials related to this case?

11   A.   Yes, I obviously have done some

12   research about South Carolina, myself, in the past,

13   so I know high-profile elections, including

14   obviously the presidential election, the state of

15   South Carolina played a role in both primary and

16   general and some high-profile Senate, U.S. Senate

17   elections, but I'm not -- I was not very familiar

18   with some of the other elections in districts that

19   are not nationally well known, so I asked the

20   counsel to help me compile a list of all elections

21   that took place for congressional seats in South

22   Carolina in national circles, in circles of

23   elections. And so they helped me and we went back

24   and forth and double checked all the names, the

25   candidates' racial and other political backgrounds;

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 1     so they helped me tremendously on that part.

 2                 So eventually I believe I had an

 3     exhaustive list of these candidates in biracial

 4     elections that I needed to conduct my racially

 5     polarized voting effectiveness analysis.

 6                 So, yes, they helped me in that regard.

 7          Q.   So I want to understand this a little

 8     bit better about this list.  What is shown on this

 9     list?

10          A.   I believe there are names of the

11     candidates and what districts they won, elections,

12     and what year, and also the links to these

13     candidates' profiles, especially Ballotpedia, yes,

14     and they also have a master list of all the

15     candidates.

16                 They tried to investigate and

17     eventually come up with a short list of all these

18     congressional races, so, um, the spreadsheet

19     contains all of the necessary information about who

20     the candidates are and their background

21     information.

22          Q.   Does this list also show election

23     results?

24          A.   Um, oh, you're testing my memory.  I

25     think maybe so, but I -- I would have to go back to
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 1      the list and take a deeper look, a detailed look.

 2                 But it wouldn't matter if it's there or

 3      not because eventually, if it's a biracial

 4      election, I analyzed it anyway.

 5                 So I would have all of the data in

 6      front of me and run my analysis and see what's the

 7      result.  So I would not rely on whatever they told

 8      me in that list.  It may be there, it may be not.

 9      But I would have to see the list in front of me to

10      give you a firm answer on that.

11           Q.   And, Dr. Liu, when you received your

12      Notice of Deposition asking you to provide copies

13      of materials you relied on and communications with

14      counsel, what did you do to collect that list?

15           A.   Obviously all the e-mails I had with

16      them, they have records.  I have my data which also

17      was provided to me by their data team, and so they

18      know how I got them.  And that's there.

19                 I have my R codes.  And by R, what I

20      mean is a statistical program, simply R, letter R.

21      So I used that statistical software to run a lot of

22      the analysis.  And they're all in my computer.

23                 Sometimes, uh, the counsel would need,

24      you know, the final code that I put together for

25      running the RPV results and --
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     1   Q.   So --

     2   A.   Yes?

     3   Q.   Sorry, I don't mean to cut you off,

     4   Dr. Liu.   I'm most interested in this list.

     5   Yesterday Mr. Cusick disclosed to us

     6   some documents which came from you in response to

     7   this notice.

     8   Did you review that list of documents

     9   or did you review those documents before they were

    10   produced to us yesterday?

    11   A.   I believe he showed me some

    12   communications between us and some spreadsheets;

    13   and I said, yes, these are something I received

    14   from you, and also what I sent them back in my

    15   e-mail, including, like you said earlier, how I

    16   submitted my invoice.

    17   So he did show me all of those, indeed,

    18   and I took a look on Zoom, and I said yes, these

    19   are the documents.

    20   Q.   And did you see the list of past

    21   congressional races in that collection of

    22   documents?

    23   A.   I believe that there's a spreadsheet

    24   containing the contextual information of

    25   candidates. Yes, there is the spreadsheet that he

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 1      showed me and I obviously was very familiar with

 2      that.  And I said, yes, this is what we

 3      communicated, yes.

 4              Q.   So other than this list or spreadsheet,

 5      the Complaint, and the election and VTD data, did

 6      counsel provide you any other materials for this

 7      case?

 8              A.   No, I don't think so.

 9                   To my knowledge, in the past several

10      months or so, these are mainly what I relied on and

11      conducted my analysis for.  Yeah, I don't think

12      there's anything major at all other than those.

13              Q.   Dr. Liu, how many reports have you

14      prepared in this case?

15              A.   I prepared my original expert report

16      and then I was asked to review Mr. Trende's report.

17      I did, and then I wrote a rebuttal.  So a total of

18      two reports.

19              Q.   Okay.  I would like to ask you about

20      your opening report first.  It's tabbed 2, I

21      believe, in the zip file.

22              A.   Okay.

23              Q.   And I'm going to display it on Exhibit

24      Share as Exhibit 2.

25              A.   Okay.
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 1                  (EXHIBIT 2, Expert Report of Baodong

 2           Liu, Ph.D., was marked for identification.)

 3                  THE WITNESS:  Okay.  Yep, I opened it

 4           also on my computer.

 5      BY MR. GORE:

 6           Q.   Great.  Dr. Liu, it's titled "Expert

 7      Report of Baodong Liu, Ph.D."

 8                  Is this your expert report for this

 9      matter?

10           A.   Yes.

11           Q.   We're going to talk a lot about this

12      today, but I would like to start by scrolling down

13      the appendices.

14           A.   Okay.

15           Q.   And the Appendix I, I think you called

16      it, is your CV?

17           A.   Yes, it is.

18           Q.   Is this CV current?

19           A.   Yes, I do have an update about my

20      publications because I just published another book,

21      actually, this week.

22                  It's on my CV if you go to Page 26,

23      it's a list of books, and if you look at that list

24      of books, which is Item A, the second one is called

25      Solving the Mystery of the Model Minority.  That
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 1     was first published in 2018, and just this week I

 2     have the new edition for that book, a second

 3     edition; and I guess that is the main update.

 4                 Other than that, everything should

 5     be -- I mean, also, the Item B on Page 26 is not

 6     forthcoming anymore; it's published.

 7                 Yeah, I think that's about it.

 8     Obviously I have two ongoing cases, again, just

 9     like I stated, with LDF, as well, so maybe update a

10     little bit there.

11                 But other than that, everything should

12     be up to date.

13          Q.    Appendix II -- I have just scrolled

14     down to Appendix II in your report.

15          A.    Okay.

16          Q.    And this is a list of "Voting Rights

17     Cases in Which I Served As an Expert Witness."

18          A.    Yes.

19          Q.    Will you identify for me the cases in

20     which you've appeared as an expert witness for LDF?

21          A.    Yes, the very first one is for Alabama

22     congressional redistricting, a Section 2 case;

23     that's by LDF.

24                 And the second one, the Traci Jones

25     case, is also by LDF, but that case was over.
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 1   And the third one, CMA v. Arkansas,

 2   that's ongoing, and that's by LDF.

 3   And, also, the fourth one, Alabama

 4   State Conference of NAACP versus Pleasant Grove,

 5   that's by LDF. Let's see. Yes, that's it.

 6   Q.   Dr. Liu, are all the cases on this list

 7   redistricting cases?

 8   A.   Well, it's all -- it's Section 2. I

 9   mean, they are all Section 2 cases other than the

10   one that we are doing the deposition for right now.

11   It's racial gerrymandering and intentional voter

12   dilution.

13   So other than that, all the others are

14   Section 2, so they are about districts in which the

15   plaintiffs make arguments against how districts

16   were drawn.

17   So in that matter, it's redistricting,

18   but some of these cases are specifically about

19   Section 2, so it's about -- my job is about a

20   racially polarized voting analysis. And eventually

21   they sought for some kind of remedy to change

22   districts.

23   So, in that matter, it's about

24   redistricting, but not necessarily each case is

25   right in the period of redistricting itself, such

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 1     as this one, or just finished.  Some of these cases

 2     were even toward the end of the census cycle, so

 3     it's not about the original redistricting process

 4     anymore; it's about the voting rights of African

 5     American voters in these places, or in some of

 6     these cases I represented government in situations

 7     as well.  So I guess the answer is long, but I

 8     tried to explain in detail what they are.

 9              Q.    Thank you.

10              Dr. Liu, did any of these cases on this

11     list involve claims of racial gerrymandering?

12              A.    No.

13              Q.    I believe you mentioned -- have you

14     testified on behalf of defendants in any of these

15     cases?

16              A.    Yes.

17              Q.    Which cases are those?

18              A.    Let's see, League of Women Voters of

19     Florida, that Navajo Nation, that case, the Florida

20     case.

21              Q.    Are there any other cases on which

22     you've testified on behalf of defendants?

23              A.    No.

24              Q.    Is this a complete list of all cases in

25     which you have served as an expert witness?
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1   A.   Yes, these cases are a complete list of

2   all cases I served as an expert witness so that I

3   did provide testimony either through deposition or

4   going to trial all the way through, but these are

5   all the cases that I indeed provided reports to

6   the -- to federal courts.

7   Q.   Okay. All right. Dr. Liu, can you

8   briefly describe your educational background?

9   A.   Sure, I'm a Ph.D. in political science.

10   I got my Ph.D. from University of New Orleans in

11   1999. Before that, I had a master degree also in

12   political science from Oklahoma State University

13   and I also had a bachelor of law degree from law

14   school in Shanghai from East China University in

15   political science and law. So these are the

16   education that I received.

17   Q.   During your education, did you take any

18   courses in legislative redistricting?

19   A.   I have taken political science courses

20   with Dr. Angstrom who is a well known -- Dr. Dick

21   Angstrom, or Richard Angstrom, who is a well-known

22   expert on voting rights cases. So we took a lot of

23   case studies there in his classes.

24   Q.   Was the coursework in that case focused

25   on redistricting or on some other topic?

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1   A.   Yes, mainly Section 2.

2   Q.   And other than the course with

3   Dr. Angstrom, were there any other courses you took

4   that focused on legislative redistricting?

5   A.   No.

6   Q.   And since obtaining your Ph.D., what

7   areas of research and scholarship have you

8   concentrated on?

9   A.   Yes, my concentration has been mainly

10   first American politics, especially voting and

11   public opinion in state and local politics and

12   national politics in terms of elections.

13   And I'm also a scholar of race and

14   ethnicity, so I have done research on especially

15   minority groups concerning blacks, Latinos and

16   Asian Americans.

17   I have been a leader in ethnic studies

18   as well, so I have done research about how ethnic

19   groups inside a racial minority group may or may

20   not be consistent with each other, especially where

21   political behavior is concerned.

22   And I'm a qualitative scholar, as you

23   may already know from my reports, so the second

24   area of my research is primarily on the methods on

25   which we can use -- by which we can use to engage

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1   in advanced research on politics or ethnic studies.

2   So I have published articles about

3   ecological inference, for example, and how to do

4   programming, so statistical languages such as R.

5   Other than that, I have obviously made

6   a lot of comments as a media person talking about,

7   in general, issues of politics. Yeah, those are

8   mainly my concentrations.

9   BY MR. GORE:

10   Q.   And when did legislative redistricting

11   become part of your scholarship?

12   A.   I started out as a graduate student in

13   Dr. Angstrom's class and then he asked me for help

14   as a research assistant on some cases that he

15   worked on back in the 1990s. And in early 2000, I

16   became an assistant professor, so I was asked to

17   serve in some of the cases.

18   And so all the way to today, I've been

19   very involved, highly engaged in redistricting

20   litigations, so it's more than two decades already.

21   Q.   Have you ever written a peer-reviewed

22   publication about South Carolina?

23   A.   I have written books and articles about

24   southern politics, and South Carolina is a part of

25   southern politics, but I have never written or

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1   published a piece on South Carolina alone.

2   Q.   And during your educational or academic

3   career, have you ever submitted any written works

4   for publication that were rejected for publication?

5   A.   Of course. We all have. I mean, I

6   will not say "we all." But I'm sure 99 percent, at

7   least, of us, have received rejection.

8   Q.   And how many times has that happened to

9   you?

10   A.   Well, I don't know how many. Early on,

11   probably when I was a junior I received a lot of

12   rejections, but I'm very proud of my tenacity, I

13   guess.

14   Recently, I'm just -- I guess I'm

15   established, so it's much easier for me to publish

16   now. So the rate of rejection has declined over

17   time, but I would say probably maybe 30 percent of

18   my publications have been rejected in my whole

19   academic career, but then I try to revise and

20   resubmit to different journals and so on.

21   So I would say, at the end, probably 95

22   percent of my work has been published, even though

23   not necessarily the first outlet that I submitted.

24   Q.   And were any of your rejected works

25   about redistricting?

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 1              A.   No.
 2              Q.   Dr. Liu, I would now like to show you
 3     Tab 3 from the zip folder, which I'm going to
 4     introduce as Exhibit 3.
 5                   It should be your rebuttal report.
 6              A.   Okay, let me pull that up on my
 7     computer as well.  Okay, I'm here.
 8                   (EXHIBIT 3, Rebuttal Report of Baodong
 9              Liu, Ph.D. dated May 2, 2022; re
10              Congressional Map, was marked for
11              identification.)
12     BY MR. GORE:
13              Q.   And I have marked and introduced this
14     as Exhibit 3.  It's called Rebuttal Report by
15     Baodong Liu dated May 2, 2022.  Is this your
16     rebuttal report in this case?
17              A.   Yes, it is.
18              Q.   I'm going to take that down for a
19     moment.  We'll get back to it a little bit later.
20     I want to ask you some questions about your
21     conclusions in this case.
22                   Does either of your reports conclude
23     that the enacted plan, the enacted congressional
24     plan, intentionally discriminates on the basis of
25     race?
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 1   A.   That's a great question, Mr. Gore. I'm

 2   not a lawyer, so I'm not here to provide testimony

 3   about legal definitions or facts that can support

 4   either way how intentional vote dilution should be

 5   defined in a court of law. That's not my role.

 6   But my reports, both of them, for me,

 7   are to make conclusions about how race may or may

 8   not be a factor in the redistricting process in

 9   South Carolina.

10   So I don't know whether I should give

11   you a categorical yes or no, but my role as an

12   empirical analyst is to provide evidence about the

13   role of race and also the role of partisanship.

14   But motivation of voters, for example,

15   or the government, in the redistricting process,

16   that's not my expertise at all.

17   Q.   Okay. So let me follow up on that.

18   I'm asking about both of your reports.

19   And in both of your reports you provide data and

20   computational analysis; is that correct?

21   A.   Yes.

22   Q.   And I think you just said that you

23   don't draw any conclusions about motivation or

24   intent in your reports.

25   Is that also correct?

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1   A.   That's correct.

2   Q.   Do you draw a conclusion as to whether

3   race predominated over traditional districting

4   criteria in this plan?

5   A.   Again, you are using the legal word

6   "predominance." That's not my domain of expertise.

7   But I am an empirical scholar, so I need data.

8   If the assumption is, say, partisanship

9   is the factor, whether you can call it a

10   motivational factor or not, I will analyze the data

11   to say whether that assumption is valid or not.

12   So my job is simply to use data to draw

13   conclusions about assumptions, of whether it's race

14   or party induced, in the process of redistricting.

15   So that's what I do.

16   Q.   So is it fair to say that neither of

17   your reports concludes that race predominated over

18   traditional districting criteria in this

19   congressional plan?

20   A.   Well, my reports are so clearly -- I

21   mean, they clearly stated that race played a bigger

22   role than partisanship. That's so clear in my

23   reports. It's not partisanship that played a

24   greater role than race, so whether --

25   Q.   Dr. Liu, I don't -- I don't mean to cut

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 1     you off.  We'll get to that in a moment.  I'm just

 2     trying to -- I'm trying to ask a yes or no

 3     question.

 4               Does either of your reports conclude

 5     that race predominated over traditional districting

 6     criteria in the congressional plan?

 7          A.   My reports indicate that race has

 8     played a greater role than other factors I

 9     analyzed, in this case partisanship, especially

10     so --

11          Q.   But your -- your -- your report --

12               MR. CUSICK:  Excuse me.  I would just

13          say, Mr. Gore, just let him finish his

14          answer.

15               MR. GORE:  Sorry, okay.

16               I asked a yes or no question and I got

17          a longer answer.

18     BY MR. GORE:

19          Q.   It's supposed to be an easy question,

20     but go ahead, Dr. Liu, please finish.

21          A.   Yes.  What I tried to make clear in my

22     statement is that I am not a legal scholar, so I am

23     not here to provide testimony about motivation or

24     intention.

25               But my job, which I strongly believe
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1   that I have faithfully played the role for the

2   court, is to document exactly the two assumptions.

3   One is about race, the other is about partisanship.

4   Which one is valid? To me, the race assumption is

5   valid. That's all I can say.

6   Because we are empirical scholars and

7   we can only use data to show where the data leads

8   us. And it's race that is -- that we can say is

9   the most plausible explanation of what happened in

10   the redistricting process.

11   That's all I can say.

12   Q.   Dr. Liu, do your expert reports contain

13   all of your opinions in this case?

14   A.   Yes, like I said, I did reserve my

15   right to provide supplemental reports when new data

16   are coming in and they are necessary; but because I

17   have done so many analyses of experts for the

18   proponent side on this case and I've done so many

19   analyses on so many elections, my opinion is

20   complete, and I have stated in my reports that race

21   played a greater role in redistricting than

22   partisanship, and I stand by that.

23   Q.   Have you prepared a supplemental report

24   in this case?

25   A.   No, I have not.

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 1              Q.   Do you intend to?

 2              A.   Up to this point, I don't have new

 3   data.  I know that a primary has been conducted in

 4   South Carolina so that there's new data coming in,

 5   but I don't have those, so I cannot do any more

 6   analysis.

 7              But they are typical.  They are in line

 8   with what has happened in the past, which I

 9   reported in my original expert report, all the

10   general elections, primary elections and exogenous

11   elections statewide.

12              So I don't have anything at this moment

13   to add, but I'm certainly happy to help the

14   counsels on both sides, and the Court, to

15   understand racially polarized voting effectiveness

16   analysis and so on, if I'm given new data.

17              Q.   Dr. Liu, do you intend to offer any

18   opinions different or in addition to the opinions

19   in your expert and rebuttal reports?

20              A.   No, at this point, I have no reason to

21   add.

22              Q.   All right.  I would like to go back to

23   your first expert report, which has been marked as

24   Exhibit 2, and it's Tab 2 in the zip folder.

25              A.   Yes, I have it in front of me.
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1   Q.   You have it in front of you, great.

2   I would like to start on Page 4 of that

3   report and ask you some questions about it.

4   A.   Okay.

5   Q.   Do you have Page 4 in front of you?

6   A.   Yes, it's right here, yes.

7   Q.   You have a sentence in here, the last

8   paragraph of Page 4, that says, "I analyzed the

9   biracial elections based on the ecological

10   inference (EI) method developed by Professor Gary

11   King of Harvard University."

12   My question, Dr. Liu, is, did you use

13   the King EI methodology in your RPV analysis in

14   this case?

15   A.   Yes.

16   Q.   What threshold did you use to determine

17   whether voters in a particular racial group support

18   a particular candidate?

19   A.   Yes. In fact, I provided my

20   operational definition of RPV in my report as far

21   as RPV is concerned, how I conducted the analysis

22   for each biracial election and the procedures on

23   which I draw my conclusions, so, yes, yes, I did.

24   Q.   Footnote 2 on Page 4 says that you

25   define support for black and white groups --

 1   A.   Yes.

 2   Q.   -- for the black candidate in a

 3   biracial election as over 50 percent of votes for a

 4   particular candidate; is that right?

 5   A.   Yes, yes.

 6   So by that I mean at least 50 percent,

 7   50 percent plus one vote; that's the majority by

 8   definition.

 9   So if the majority of a minority

10   group -- say, black voters -- provided majority

11   support for a black candidate, then this minority

12   group is providing a majority support for this

13   candidate; and, yet, the white majority in the same

14   election -- I also use 50 percent as the

15   threshold -- the majority of whites voted for the

16   opponent of this black candidate -- namely, the

17   white candidate in the race -- then it's racially

18   polarized.

19   Q.   Okay. So let me -- let me make sure I

20   understand.

21   A.   Sure.

22   Q.   So if black voters vote 50 percent plus

23   one vote for a black candidate, they support that

24   candidate under your methodology; is that right?

25   A.   Yes, yes, because it's a majority

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 1   support.

 2   Q.   And if 50 percent minus 1 vote, or 49.9

 3   percent, of white voters support that candidate,

 4   that would not be majority support in your view, is

 5   that correct?

 6   A.   Yes, because mathematically speaking

 7   it's not a majority anymore. But I know this may

 8   sound just, you know, one vote or two votes

 9   difference between the two scenarios that you just

10   described, however, in a super majority of the

11   cases that I have conducted research on, this

12   usually doesn't happen.

13   By "this" I mean only 50 percent plus

14   1, versus 50 percent minus 1. That kind of

15   scenario seldom happens, at all, in reality,

16   usually. It's like 80 percent versus 20 percent,

17   or 70 percent versus 30 percent. But one has to

18   have some kind of threshold; majority is my

19   threshold.

20   Q.   Okay, so thank you. And I just want to

21   confirm, an election that has 50 percent plus 1

22   vote from African Americans for a candidate and 50

23   percent minus 1 vote from white voters for that

24   same candidate is a racially polarized election

25   under your analysis; is that right?

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 1            A.   Yes, based on my operational
 2      definition, that would be a racially polarized
 3      election.  But my racially polarized election
 4      analysis doesn't just stop there.
 5                 If it indeed happens, one obviously
 6      pays attention to why such a small gap, like you
 7      just did, in that scenario of a difference of two
 8      votes, or actually not a difference of,
 9      mathematically two votes.  But, in terms of
10      percentage, plus 1 percent versus minus 1 is such a
11      small gap.
12                 But the degree to which the gap is also
13      matters, right?  So we do make further analysis if
14      such a short gap indeed exists and look at the
15      context in which particular elections may produce
16      such a short gap.
17                 As I said, usually that doesn't happen
18      at all.
19            Q.   Are you aware of any court decisions
20      adopting 50 percent plus 1 as the threshold for a
21      racially polarized voting analysis?
22            A.   What I do know for sure is what I have
23      done in my own education related to practicing as a
24      scholar.  Throughout my career as an expert
25      witness, I have always used this definition
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1   empirically. And in most cases I have worked, the

2   Court did accept my way of empirically doing this

3   analysis. And I do know, also, a lot of other

4   scholars use the same approach.

5   However, there are also some scholars

6   that would have a different kind of threshold and

7   they may have, like, even more parameters set

8   to define empirically what a racially polarized

9   election for these scholars, but they are not the

10   super majority. The super majority of expert

11   witnesses, as I know, do agree with what I say.

12   Q.   So, Dr. Liu, I noticed Footnote 2 of

13   your report doesn't have any citation. So what

14   authority --

15   A.   Yes.

16   Q.   -- can you cite me to for using 50

17   percent as the standard of support in racially

18   polarized voting?

19   A.   Again, I don't -- I'm not aware of too

20   many scholars that are against this. So like I

21   say, I have been using this for all of my career.

22   You know, most scholars I know also agree;

23   polarization has to be defined empirically in some

24   way. My way, I don't want to say, is the universal

25   way, but it is a pretty conventional way.

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 1                    But, granted, that there are

 2      discussions about, well, what about the gap?  How

 3      large is the gap?  It is significant.  And there

 4      are people -- there are scholars who want to go

 5      with like a very rigid definition of how large the

 6      gap is.

 7                    But it is what I learned from the

 8      Gingles decision of the Supreme Court, polarization

 9      meaning polarization.  The majority of one group do

10      not agree with the majority of another group, and

11      they're polarized.  Of course, there's a degree of

12      difference in terms of polarization.

13           Q.   So as you sit here today, you can't

14      cite me to a specific court decision or academic

15      article that accepts this 50 percent standard; is

16      that right?

17           A.    I mean, that's not a very fair

18      question, because there's not too much in the

19      literature that says different, otherwise, either.

20      So, yes, that's all I can answer at this point.

21           Q.    Okay.  I would like to ask you about

22      Table 2 on Page 8.  Do you have that in front of

23      you?

24           A.    Yes, yes, I have that.

25           Q.    The second race from the bottom is a
```

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 1   2014 Congressional District 6 primary --

 2   A.   Yes.

 3   Q.   -- involving Congressman Clyburn; is

 4   that right?

 5   A.   Yes.

 6   Q.   And you report that Congressman Clyburn

 7   got support from 43.28 percent of white voters; is

 8   that correct?

 9   A.   Correct.

10   Q.   And you believe that that is a racially

11   polarized election, correct?

12   A.   Yes.

13   Q.   And are you aware of any --

14   A.   I'm so sorry for cutting you off, but

15   it is racially polarized. It's very polarized, as

16   you can see.

17   Q.   Are you aware of any court decision

18   holding that an election is racially polarized when

19   the black candidate of choice received 43.28

20   percent or greater of the white vote?

21   A.   Am I aware of any court cases that

22   exhibit the same feature as the white voters voting

23   43 percent or more for a black candidate --

24   Q.   Yes.

25   A.   -- is that your question?

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 1                    The answer is absolutely.  I have done

 2      many cases where the white support for a black

 3      candidate can be in the range of the 40s, for sure.

 4           Q.   And have courts found that those

 5      elections are racially polarized?

 6           A.   Yes.

 7           Q.   And what's an example of one of those

 8      cases?

 9           A.   I have so many other cases, meaning all

10      the litigation work I have done, that, I mean, I

11      cannot give you just on the spot, right, because I

12      have no other reports in front of me.  But I'm sure

13      I have those.  I can go back to some of my reports

14      in the past and send you an e-mail, but I cannot do

15      that on the spot.

16                    MR. GORE:  Can we go off the record.

17                    (A brief recess was held.)

18      BY MR. GORE:

19           Q.   Let's go back on the record.

20                    Dr. Liu, did you talk to anyone during

21      the break?

22           A.   I saw my wife to say hi very briefly.

23           Q.   Did you talk to counsel?

24           A.   No.

25           Q.   Dr. Liu, I would like to return to your
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 1   report and ask you a few questions about it.

 2   Probably more than a few.

 3   A.   Sure.

 4   Q.   Moving forward to Page 6 of your

 5   report.

 6   A.   Okay. Page 6, right?

 7   Q.   Yes, sir, for now.

 8   A.   Okay.

 9   Q.   Now, you conducted an RPV analysis of

10   three sets of elections; is that correct?

11   A.   Could you repeat that question, please.

12   Q.   How many sets of elections did you

13   conduct an RPV analysis of?

14   A.   How many sets of elections?

15   Q.   Yes.

16   A.   Yes, I -- yes, I conducted RPV analysis

17   for endogenous general elections and then

18   endogenous primary elections and then finally

19   exogenous elections.

20   Q.   And in each of those elections, the

21   black preferred candidate was a democrat; is that

22   right?

23   A.   Well, I believe I had the primary

24   elections where there were Republican -- I mean

25   Republican primaries -- so therefore -- obviously,

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 1       in the primary, it's Republican only.

 2                   So, yes, but other than that, in

 3       general elections and other primaries, Democratic

 4       primary, of course --

 5            Q.   Okay.

 6            A.   -- they were Democrats, yes.

 7            Q.   Let's go to Table 1 on Page 7.

 8            A.   Okay, I'm here.

 9            Q.   Is this your table for endogenous

10       general elections?

11            A.   Yes, it is.

12            Q.   Did all seven of these elections occur

13       in majority white districts?

14            A.   Yes.

15            Q.   And did all of these elections occur in

16       majority Republican districts?

17            A.   Well, that's a great question.  Since I

18       don't have any access to party registration data --

19       I don't even know whether South Carolina has any

20       such data -- but it is a good and reasonable

21       assumption that these are Republican districts

22       because winners tend to be Republicans.

23            Q.   So in each of these elections, was the

24       black preferred candidate a Democrat?

25            A.   Yes.
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 1              Q.    So in each of these elections the

 2      winning candidate was a Republican, right?

 3              A.    Yes.

 4              Q.    Do you know the vote totals or vote

 5      margins in any of these elections?

 6              A.    Of course in my empirical operations, I

 7      do produce the results, so every candidate's vote

 8      total, percentage and gap and margins, I have those

 9      in my computer, but not in this table, I don't.

10              Q.    And did you conduct an RPV analysis of

11      any general election in District 6?

12              A.    There's no such biracial general

13      election in CD 6, so I didn't do any.

14              Q.    And do you know the percentage of white

15      crossover vote in any general election in District

16      6?

17              A.    Again, there was no biracial election

18      which involved CD 6, so there's no way for me to

19      tell you at this point what's typical white

20      crossover.

21              Q.    So the next category of elections is

22      endogenous primary elections; is that right?

23              A.    Correct.

24              Q.    And so I'm now looking at Table 2 which

25      is on Page 8 of your report, I believe; is that
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 1      right?

 2              A.    Yes.

 3              Q.    I'm a little bit confused with this

 4      table.  Can you help me with this a little bit?

 5              A.    Sure.

 6              Q.    Does this table show elections where

 7      racially polarized voting was not present?

 8              A.    This table shows 3 out of 9 primaries.

 9      I don't have direct evidence of racially polarized

10      voting by the election results alone; that's true.

11              Q.    So another way to say that is that in

12      six of these elections, you found no racially

13      polarized voting; is that correct?

14              A.    That's correct but that's not complete,

15      as my report gives you the analysis of these

16      elections, and especially if we're talking about

17      Republican primaries.  We have two here, Republican

18      primaries.  Obviously in Republican primaries, you

19      wouldn't see a lot of black voters to begin with.

20      That's well documented.

21                    And RPV -- racially polarized voting,

22      by the way, RPV is a shortcut -- normally doesn't

23      exist in Republican primaries.  So that doesn't

24      surprise anyone.

25                    However, the Table 2 -- if you are
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1   still a little bit confused, I will do my best to

2   help you clarify what I tried to say to the Court.

3   That is, if you take out all of the

4   Republican primaries, and what is left is the

5   Democratic primaries, you can see a very clear

6   pattern. That is, when the candidates in the

7   Democratic primaries -- if a candidate is not very

8   viable, meaning there's almost no chance to win,

9   because it's, like you said, white majority

10   districts, for the most part, what happens? Well,

11   the Democratic primary is difficult for a black

12   candidate to win. Why? Because there's no way to

13   win the general election anyhow, because it's a

14   white district.

15   And the RPV is so deep in the general

16   election, so black voters know that a black

17   candidate will have very limited opportunities to

18   win, so, in this case, black voters decided to vote

19   for a white candidate in the primary within a white

20   majority district. And that is a statistical

21   decision on the part of black voters. That's why

22   you don't see RPV anymore in these Democratic

23   primaries. But that doesn't mean black voters

24   wouldn't prefer a black candidate, after all, in

25   general elections.

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 1   It's simply in those circumstances

 2   where white voters are the predominant voter

 3   electorate, simply voting for a black candidate is

 4   a waste of a vote, so black voters voted for a

 5   white candidate who eventually will compete with

 6   another white candidate in the general election.

 7   So that's a statistical move on the

 8   part of black voters. And this is in line with the

 9   literature, especially in the south, when black

10   voters had to be strategical not to waste their

11   vote.

12   Q.   Thank you for all of that.

13   So in Table 2, you found racially

14   polarized voting in three elections; is that right?

15   A.   Yes.

16   Q.   And all three of those are Democratic

17   primaries, correct?

18   A.   Yes.

19   Q.   Now, the first election listed on this

20   table is a 2020 Congressional District 1 Republican

21   primary; is that right?

22   A.   Yes.

23   Q.   And it looks like the black candidate

24   received only 24.22 percent of black voter support;

25   is that correct?

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1   A.   Yes.

2   Q.   So that candidate didn't receive a

3   majority of support from black voters in that

4   election; is that right?

5   A.   Yes, but as you stated earlier, which,

6   of course, I agree, and most scholars would agree

7   with you, black voters tend to vote Democratic.

8   So what about the black voters who are

9   Republicans? Well, these black voters are not too

10   many, to begin with, but when they vote, they may

11   vote for a white Republican, and that doesn't

12   surprise anybody.

13   Q.   And then the last one listed on this

14   chart is also a Republican primary; this one from

15   2014 in District 6; is that right?

16   A.   Correct.

17   Q.   And the candidate received 19.99

18   percent of the black vote but 33.74 percent of the

19   white vote; is that right?

20   A.   Yes.

21   Q.   So this candidate received a larger

22   vote share from white voters than from black

23   voters; is that right?

24   A.   Yes, in this election, yes, correct --

25   Q.   Thank you. And with respect

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 1   to these --

 2   A.   -- but --

 3   Q.   Sorry, go ahead.

 4   A.   Yes, I just want to add a little bit of

 5   contextual information here so that it becomes

 6   clear for any reader of this table.

 7   If you look at District 6, right, we

 8   talked about earlier District 6 had the legendary

 9   black leader Jim Clyburn whose name is right here

10   in the table as well.

11   So, as we all know, he's a very well

12   accepted black leader, and he obviously wins

13   elections pretty handily.

14   So in the primary, look at what

15   happened. Republicans are also showing some

16   strategical decisionmaking as well, so black voters

17   vote for the black candidate; the white voters, in

18   this case, voted a little bit more -- actually,

19   almost twice as much -- for the black candidate in

20   District 6.

21   Why?

22   Well, it's clear that white voters in

23   this case think about, well, eventually the general

24   election will be whatever this Republican nominee

25   facing the tremendous barrier of a Democrat

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 1        incumbent, Mr. Clyburn, so that's why you see in

 2        this table, you know, why support for the black

 3        candidate actually is higher, because, in their

 4        mind, it could be that eventually when there is a

 5        black candidate competing in the general election,

 6        maybe, maybe, just maybe, for them, the probability

 7        of winning is a little higher, obviously.

 8        Eventually it doesn't happen, the candidate was

 9        defeated strongly, she lost totally in the primary.

10        So that's just the contextual information for this

11        particular race.

12                Q.    Thank you.

13                      And in the 2014 Congressional District

14        6 election, who was the Republican nominee?

15                A.    Well, the opponent, I don't have their

16        name here.  It's in my computer.  Again, I can

17        certainly go there and give you that.

18                      But before my RPV analysis in this

19        case, I don't have it in my table because that's

20        not my focus of analysis at all.

21                      But usually it's the opposite, right?

22        So what you have here, the opposite is true for the

23        opponent.  I don't have the name of this opponent,

24        but he or she should get the opposite percentage of

25        votes as opposed to a win clear to black.
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 1   Q.   And do you know the race of that

 2   Republican candidate or nominee in 2014 in District

 3   6?

 4   A.   Um, at this point, I don't have that

 5   memory, but, um, I can go back to my notes to check

 6   it out.

 7   Q.   Okay. Okay, let's go back to your

 8   report, if I can find it here. And you say in your

 9   report that the most probative elections for

10   assessing racially polarized voting are biracial

11   elections; is that right?

12   A.   Yes, and that's also a very well-known

13   approach taken by expert witnesses across the

14   nation. That is, you need to examine elections

15   that involve both a minority candidate -- in this

16   case, a black candidate -- but also at least a

17   white candidate so that there's a choice between

18   black candidacy and white candidacy so that you can

19   reveal, when there's a choice, how the majority of

20   blacks voted, as opposed to how the majority of

21   whites voted. So, in that way, you can test

22   whether race is a factor or not.

23   Q.   I would like to turn to Table 3 on Page

24   10 of your report. Can you see that?

25   A.   Okay, yeah, sure, it's right here.

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 1              Q.    And these are the six exogenous

 2      elections that you analyzed; is that right?

 3              A.    Yes, they are.

 4              Q.    And are endogenous or exogenous

 5      elections generally considered more probative for

 6      racially polarized voting analysis?

 7              A.    Yeah, that's a great question.  We use

 8      endogenous elections to analyze RPV primarily,

 9      because, by definition, endogenous elections are

10      those that are concerned with the office under

11      dispute legally, so obviously those elections

12      revealed more about voting patterns than they have

13      impact in the near future, whereas exogenous

14      elections are those that do not deal with an office

15      that is in legal dispute in the case.

16                    So exogenous elections are less

17      probative than endogenous elections.

18              Q.    Now, on Table 3, you identify Joe Biden

19      as a black-preferred candidate.

20              A.    Yes.

21              Q.    But he is not black, right?

22              A.    Now, he's not.

23              Q.    And the 2020 U.S. presidential election

24      was not a biracial election, correct?

25              A.    Yes, that's why I put a note in my
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 1    report.  This is not a typical biracial election,

 2    by any means.  And the reason I put it here to be a

 3    part of my exogenous elections analyses is because

 4    there is indeed a vice president candidate who is

 5    black, mixed race, so she is a minority candidate.

 6              Obviously presidential elections are so

 7    unique and different.  And you have the ticket, for

 8    major parties, both Democrat and Republican,

 9    involving not only the top of the ticket -- that

10    is, the presidential candidate -- but also the vice

11    presidential candidate.

12              And, you know, literature has indicated

13    so clearly that usually it's the top of the ticket

14    that matters most for voters, but choosing the

15    right running mate also matters.

16              So that's why I put it here, because

17    there is a minority candidate nominated by a major

18    party.  And so it's also most recent.  And every

19    voter had a chance to vote in South Carolina for

20    both presidential and vice presidential offices.

21              So that's why I put it here, but noted

22    it's not as probative as the other biracial

23    elections.

24         Q.    And you and I have been using the word

25    exogenous, and I will spell that for the court
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 1      reporter's benefit:  E-x-o-g-e-n-o-u-s.

 2                   So, Dr. Liu, I would now like to ask

 3      you about your effectiveness analyses which starts

 4      on Page 11 of your report.

 5           A.   Yes.

 6           Q.   What is the standard you use to

 7      determine whether a district is effective for black

 8      voters?

 9           A.   Yes, again, that's a great question.

10                   I would like to take this opportunity

11      to -- maybe it's even more appropriate for me to

12      use this precious time to explain succinctly what

13      an effectiveness analysis is and how I do it.

14                   Effectiveness analysis is about which

15      district -- obviously based on different plans that

16      are in competition in the court of law -- which one

17      is more effective for minority voters to protect

18      their right to vote and elect the candidate of

19      their own choice, right?  So, for that purpose, it

20      is necessary to look at three components in an

21      effectiveness analysis.

22                   Number one, how the districts are

23      configured, right?  So you need to look at how the

24      new districts are drawn in terms of racial makeup,

25      especially the percentage of voters for major
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1   categories, in this case black vote, what the

2   percentage of black registered -- voting age black

3   voters in a particular district -- you do want to

4   take notice of that -- and also white percentage as

5   well and so on.

6   So that's the first component you would

7   look at, how different districts configured

8   districts differently and compare all of these

9   districts, based on different plans, with the

10   original one, meaning the benchmark one -- that's,

11   in this case, the 2012 districts -- you want to do

12   that and make comparisons. So that's the first

13   part you do of any effectiveness analysis.

14   And the second part is potentially RPV

15   analysis, because how districts are drawn will be

16   so crucial in terms of how different levels of RPV

17   will produce different winners.

18   Obviously a highly racially polarized

19   district would make it even more difficult for

20   black preferred candidates to win, simply because

21   there's a huge level of white block voting. So

22   that's very necessary in the effectiveness

23   analysis.

24   And the final component of it is to

25   look at eventual winners, and given whatever

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1   districts are configured, let's see who wins by how

2   much, or loses by how much.

3   So there you would have all of the

4   votes tallied in all of the newly configured

5   districts and compare different plans.

6   So these are the three components I

7   have tried to report to the Court and see which

8   ones give black voters more opportunity to elect

9   the candidate of their choice.

10   And I'm sorry it's a little long, but I

11   hope this helps everybody.

12   Q.   Thank you for that.

13   Do you consider a district to be

14   effective for black voters only if the black

15   preferred candidate receives 50 percent plus 1 of

16   the vote?

17   A.   Well, that's a great question again.

18   Obviously the elections will eventually

19   decide who is the winner. 50 percent plus 1 is the

20   absolute winner. Obviously everybody wants that.

21   Black voters certainly want that.

22   However, effectiveness analysis, by the

23   way, is an analysis of degree. It's not just

24   categorically. Because, after all, we are using

25   the data that we collected concerning elections

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1   that just took place recently and trying to project

2   what will happen in the future.

3   So what happened is that all of these

4   elections are already done and they are not new

5   elections that are to be determined.

6   So what you want to do is to look at

7   all of these elections and see a statistical

8   indication of a potential winner in the near

9   future, because nobody knows for sure. And as you

10   well know, you know, elections may take on some

11   unique turn, just because of circumstances.

12   So what we do as scholars, we try our

13   best to get an average. So by that I mean, we want

14   to compute an average percent of votes for the

15   black preferred candidate. So that average tends

16   to vary depending on which elections you are

17   analyzing.

18   So what we are to do is compare

19   different districts based on the average.

20   Obviously there's a degree of difference.

21   Sometimes you have, like, 47 percent. On average.

22   But to get the 47 percent, you may have

23   elections that have 50 percent plus 1. But you may

24   also have elections that go below that. But that's

25   just a percent, average percentage. So in the end,

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1   you look at the average in terms of the differences

2   in the averages. Hopefully we'll get 50 percent,

3   but the average also reveals more about the degree

4   of difference.

5   So that's why my table -- Table

6   4 -- gives you all the details about the degree of

7   differences, because effectiveness analysis is

8   about degree of differences.

9   Q.   Thank you for that, Dr. Liu.

10   Let me ask a hypothetical question, if

11   I might. I'm trying to understand the

12   effectiveness analysis.

13   Let's say I want to compare two

14   districts. In one of those districts the black

15   preferred candidate gets 47 percent of the vote

16   exactly in every election so that the average for

17   that candidate is 47 percent, right?

18   A.   Yes.

19   Q.   And let's say in the comparator

20   district, the black preferred candidate gets 44

21   percent of the vote in every election so that that

22   candidate's average is 44 percent.

23   A.   Yes.

24   Q.   Is that right, okay?

25   A.   Yes, right.

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1   Q.   So under your analysis, would the 47

2   percent district be more effective than the 44

3   percent district for the black preferred candidate?

4   A.   Yes, yes. The short answer is

5   certainly yes, right?

6   So the effective analysis revealed the

7   degree of difference between the two districts

8   newly drawn, because one district is 47, the other

9   district is 44. I know, hypothetically, you said,

10   all elections we analyzed are 47 even, or 44 even,

11   no variation.

12   Let me just take that as a reality,

13   even though in reality it usually doesn't happen

14   that way, but, anyway, let's take it as a given.

15   Why is it different, even though both

16   of them are below 50 percent? Well, simply it's

17   because, when we draw districts right, we don't

18   just say, okay, we want the black preferred

19   candidate to win and dominate all the time in each

20   election.

21   So it's about projection of what will

22   most likely happen in the future given the district

23   configuring.

24   So why the 47 percent district is a

25   little more? It's not like significantly more,

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 1        like not hugely more, but it is more for the BPC,

 2        or the black preferred candidate, to have a better

 3        chance, simply because 47 is much closer to 50

 4        percent than 44 percent.

 5                    And, also, you know, we're talking

 6        about how black voters influence the direction of

 7        an election.  So obviously you want 47 as opposed

 8        to 44, because, in those cases, it's more effective

 9        for black voters to influence the district, even

10        though maybe not produce a winner, the final

11        winner, but at least to have a say in the election.

12                    And that's why we as scholars are so

13        careful and try to be precise about what degree of

14        difference each district is different from another,

15        given different terms.

16              Q.    Thank you.

17                    Just so I'm clear, under your analysis,

18        the 47 percent district is more effective than the

19        44 percent district even though the black preferred

20        candidate hasn't been elected in the 47 percent

21        district; is that correct?

22              A.    Yes, yes, but the black candidates, I

23        mean, have different rates of success,

24        statistically speaking, because 47 is different

25        from 44, even though, categorically, both of them
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1   show a loser on the part of the black preferred

2   candidate.

3   However, the black influence varies in

4   the two districts. And the candidates that tend to

5   run in those districts tend to be different,

6   because the black influence is increased in the

7   first district you've described as opposed to the

8   second district, so you tend to have different

9   candidates running, as well.

10   And then that's why, categorically, you

11   may have the same losers, but quantitatively you do

12   have a degree of difference in terms of influence

13   of black voters.

14   And I believe that this is -- this is

15   not a Section 2 case. The Plaintiffs are not just

16   pushing for a new district, where, you know,

17   typically black preferred candidates can win.

18   They are using this case, a lawsuit, to

19   help protect black voters' opportunity to elect a

20   candidate of their choice and also their right to

21   participate in an election equally with all other

22   voters; so it's an equal protection clause we are

23   talking about.

24   And that's why effectiveness analysis

25   is essential. It tells us more about how voters

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1   actually may have a degree of influence in election

2   outcomes.

3   Q.   So let me ask a couple follow-up

4   questions. The difference in the effectiveness of

5   two districts between -- in your effectiveness

6   analysis -- is simply the difference between the

7   average level of support for the black preferred

8   candidate in those two districts; is that right?

9   A.   Well, it's right, but not complete. I

10   did say that, of course, more than 50 percent.

11   That would be categorically different, right?

12   So, in essence, if a district can

13   produce more than 50 percent plus 1 opportunity for

14   the BPC, that districting is obviously much more

15   favorable. So there is this categorical

16   difference. I have to address that. But beyond

17   that, what I'm trying to say is, beyond that,

18   there's a degree of difference.

19   So the effectiveness analysis allows us

20   to see that difference that we're talking about

21   between any plan, what kind of difference

22   quantitatively can you reach, and you would let the

23   court decide which one actually is a little bit

24   more effective, as opposed to, like, very or

25   categorically effective.

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 1                  So I hope my explanation helps clarify

 2      it, rather than make it more confusing.

 3                  (A brief recess was held.)

 4      BY MR. GORE:

 5           Q.   And Dr. Liu, do you know what kind of

 6      district the Plaintiffs are asking for in this

 7      case?

 8           A.   First of all, I'm not a demographer.  I

 9      don't do any geocoding myself, because it's not my

10      expertise.  Sometimes I'm involved in the remedy

11      plan because my RTV analysis helps both sides to

12      decide.

13                  So I'm not sure what kind of district

14      the Plaintiffs are asking for exactly, but

15      obviously my analysis, especially my effectiveness

16      analysis, helps, you know, both sides to know what

17      kind of districts produce what most likely

18      consequences.

19                  So most likely, when I have data, I

20      show them the results, but I'm not kind of in the

21      process of deciding what districts are the best for

22      the Plaintiffs, what districts are acceptable to

23      the government.  That's not my expertise at all.

24           Q.   Thank you.

25                  I want to ask you a question about Page
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1   11.   Under background you note that, "The 2020

2   census shows that black voters are 25.28 percent of

3   the voting age population in South Carolina."

4   And you say, based on pure proportional

5   representation, that would be 1.7 congressional

6   seats in South Carolina. Is that right?

7   A.   Yes, that's what I wrote.

8   Q.   Do you believe that pure proportional

9   representation is the legal standard that governs

10   this claim?

11   A.   If you're asking me about my personal

12   belief, I'm with most political scientists in this

13   very fundamental question of American democracy.

14   I'm not a, like, 100 percent proportional

15   representation guy, so to speak.

16   I don't promote elections that are

17   exactly based on whatever proportion of racial

18   group or gender group, or any other dimension you

19   mentioned. Simply, I believe that a democracy

20   society is dynamic. Identities are many.

21   But proportional representation has its

22   foundation and usefulness for scholars to build up

23   their argument for a better future for America.

24   I do believe proportional

25   representation helps us understand why certain

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1   groups always fall behind, other groups always have

2   more. So it's a baseline, so to speak, for people

3   to look at, but by no means I'm promoting

4   constitutionally we have to promote proportional

5   representation in American democracy.

6   Did I answer your question? Because

7   you were asking my belief.

8   Q.   You did, yes. I was. Thank you.

9   Are you familiar with the concept of a

10   seats-votes curve?

11   A.   I don't think so.

12   Q.   All right. Let's go to Table 4 on Page

13   13 which I believe you have entitled "Effective

14   Analyses for Enacted Congressional Redistricting

15   Plans, SC."

16   Can you see that?

17   A.   Is it Table 5, are you talking about?

18   Q.   I have it marked as Table 4 on Page 13.

19   A.   Oh, Table 4, okay, yes, I'm here.

20   Q.   Okay, great. And so this table shows

21   the original, or benchmark plan; the enacted plan;

22   the Harpootlian plan; Plaintiff plan 1 and

23   Plaintiff plan 2. Is that right?

24   A.   Yes.

25   Q.   And it shows the BVAP in each district

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 1       in each of those plans; is that right?

 2              A.   Yes.

 3              Q.   And it shows the WVAP, W-V-A-P, in each

 4       of those districts; is that right?

 5              A.   Yes.

 6              Q.   And it shows the RPV in each district

 7       in each plan; is that right?

 8              A.   Yes, correct.

 9              Q.   And then at the bottom it shows the

10       average percent vote for the black preferred

11       candidate in each district in each of those plans;

12       is that right?

13              A.   Yes, correct.

14              Q.   Okay.  So I want to focus first on that

15       bottom set of information, the average percentage

16       of the vote for the black preferred candidate.

17                   And according to this chart, in each of

18       the plans, District 6 has an average vote

19       percentage of 64 percent to 68 percent for the

20       black preferred candidate.

21                   Is that right?

22              A.   Yes.

23              Q.   And according to this chart, the only

24       other district where the black preferred candidate

25       ever receives 50 percent or more of the vote on
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 1      average is District 1; is that correct?
 2              A.    Correct, according to the Plaintiff's
 3      plans 1 and 2 and the Harpootlian plan.
 4              Q.    And the Harpootlian plan, okay.
 5              A.    Yes.
 6              Q.    Now, the original plan, or the
 7      benchmark plan, and the enacted plan, are quite
 8      similar or highly similar on the percentage of the
 9      vote for the black preferred candidate in each
10      district; is that right?
11              A.    That question is a little bit -- you
12      have many components.  Could you repeat that
13      question?
14              Q.    I'd be happy to repeat my question,
15      thank you.  I will see if I can do better this
16      time.
17              A.    Thank you.
18              Q.    Would you agree with me that the
19      benchmark plan and the enacted plan have
20      substantially similar average vote shares for the
21      black preferred candidate in each district?
22              A.    Yes, as opposed to other plans.
23              Q.    Yes.  But just comparing those two
24      plans to each other, the numbers are --
25              A.    Correct.
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1   Q.   -- substantially similar in each

2   district; is that right?

3   A.   Yes, correct.

4   Q.   All right. So let's focus in on

5   District 1 and I would like to talk about these

6   plans where District 1 has a 50 percent or greater

7   vote share for the black preferred candidate; would

8   that be okay?

9   A.   Yes.

10   Q.   So let's look at the Harpootlian plan.

11   And that, on average, yielded 50 percent support

12   for the black preferred candidate in the elections

13   you analyzed; is that right?

14   A.   Correct.

15   Q.   Do you recall how many of those

16   elections the black preferred candidate got 50

17   percent plus 1 or more of the vote share in the

18   Harpootlian District 1?

19   A.   I have those in my computer. There's

20   so many numbers. Obviously with space, I cannot

21   report every detail. I will be happy to look at

22   those and report back to you.

23   Q.   Thank you. It's not a memory test.

24   Let me ask the question this way: Is

25   it the case that in Harpootlian District 1, the

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 1     black preferred candidate won some of the elections

 2     but also lost some of the elections?

 3              A.    Yeah, or they may be very close.

 4     Again, at this point, I don't have the full

 5     election to analyze that plan.

 6              Q.    Because this chart only shows the

 7     averages, right?  It doesn't show each election; is

 8     that right?

 9              A.    Yeah, right, right.

10              Q.    But, certainly, if the black preferred

11     candidate won sometimes and lost sometimes, that

12     could all average out to 50 percent, right?

13              A.    Correct, correct.

14              Q.    Now, I want to scroll up on this chart.

15                    According to this chart, the

16     Harpootlian plan has a 21 percent BVAP in CD 1; is

17     that right?

18              A.    21 percent, yes.

19              Q.    Okay.  So in a 21-percent-BVAP

20     district, the black preferred candidate is winning,

21     on average, 50 percent of the vote; is that right?

22              A.    Well, I don't know the logic of your

23     question.  If your question is descriptively

24     whether or not it has 21 percent of black BVAP,

25     and, on average, 50 percent of BPC winning, then
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 1      that answer is absolutely, yes, that's what I

 2      reported.

 3              Q.   So doesn't that mean that 29 percent of

 4      the black preferred candidate's support is coming

 5      from non-black voters?

 6              A.   Uh, could you explain what you mean by

 7      29 percent?  Where is the 29 percent from?

 8              Q.   That's 50 percent support for the black

 9      preferred candidate minus --

10              A.   Okay.

11              Q.   -- 21 percent BVAP in a district that

12      your chart says has 100 percent racially polarized

13      voting.

14              A.   Well, uh, I mean, again, I don't have

15      data in front of me, but I am very, very skeptical

16      of the calculation that you just made out because

17      we don't know, the white block voting, the black

18      support; without RPV in details, it's very

19      difficult to calculate or just to jump into a

20      conclusion like, you know, blacks always voted for

21      blacks or whites always for whites.  So if I follow

22      you, I mean, those numbers are not necessarily

23      true.

24              Q.   Well, let me ask the question this way:

25      Doesn't this indicate that there's significant
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 1      white crossover voting in District 1 in

 2      Harpootlian's plan, regardless of whether it's 29

 3      percent or some other percent?

 4              A.    Right.

 5              Q.    Isn't there significant white crossover

 6      voting here?

 7              A.    Yes, that's a much better way to put

 8      it, because it's not a statistical way anymore; it

 9      is a way to address the potential white crossover.

10                    Just based on the number, one can

11      assume, you know, white crossover could be a good

12      explanation, but, of course, eventually everything

13      has to go back to data --

14              Q.    Right.

15              A.    -- so I have to check the data to see

16      if that's actually what happened.

17                    But if I get you right, it's reasonable

18      to assume, in this case, in CD 1, especially in the

19      Harpootlian plan, there is white crossover.  I

20      think that's a reasonable assumption.

21              Q.    And wouldn't it be a significant amount

22      of white crossover voting to get 50 percent support

23      for a black preferred candidate in a 21 percent

24      BVAP district?

25              A.    Again, you know, I would have to
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 1   examine the data. Sometimes, indeed, just the

 2   turnout difference -- I mean, it depends on what

 3   election.

 4   Usually in America white turnout is

 5   greater than black turnout, but you never know,

 6   right? Sometimes you do have a very high level of

 7   back participation for whatever reason, and so you

 8   don't need a lot of white crossover, as opposed to

 9   other elections where black participation is very

10   low and you do need a lot of white crossover to get

11   the BPC number to go high.

12   So, again, I don't want to

13   categorically give you an answer but I need to know

14   the real number to make a case one way or another,

15   but it is a good assumption that there is some

16   white crossover in South Carolina, in CD 1. I

17   think that's a very reasonable assumption.

18   Q.   And one of the elections you looked at

19   when conducting this effectiveness analysis was the

20   2020 presidential election; is that right?

21   A.   Yes, correct, that's one of the four

22   elections, yes.

23   Q.   And do you believe that that is a

24   high-turnout election?

25   A.   Usually presidential elections are what

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 1      we call un-elections, so they tend to generate more

 2      enthusiasm from voters.

 3              Q.    How about the 2020 presidential

 4      election; would you consider that a high-turnout

 5      election?

 6              A.    Oh, yes, definitely, yes.

 7              Q.    And I believe you said -- did you

 8      include the 2020 U.S. Senate election in this

 9      effectiveness analysis?

10              A.    Yes.

11              Q.    Okay.  And do you consider that --

12              A.    Yes -- yes, I mean, I don't have the

13      number in front of me, but usually in the general

14      election, all of the other statewide elections in

15      particular tend to have greater turnout than

16      otherwise a midterm election.

17                   And in this case, 2020, a Senate race

18      in South Carolina is a highly publicized election

19      involving two remarkable candidates, so I think

20      your assumption is reasonable.

21              Q.    And do you consider the 2020 U.S.

22      Senate election to be a high-turnout election?

23              A.    Again, I don't have the number right

24      now in front of me.  I do have those in my

25      computer.  But, again, I think it's reasonable to
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 1      believe it was a higher turnout.

 2            Q.    And in terms of your effectiveness

 3      analysis, did you attempt to quantify the amount of

 4      white crossover voting in any of these plans or any

 5      of these districts?

 6            A.    Well, again, my effectiveness analysis

 7      is about the opportunity to elect, so -- I mean, to

 8      elect the candidate of choice for the minority

 9      voters.

10                  So the specific measurement I have here

11      is the average of -- average percent vote for BPC.

12      I think that takes a lot of factors into it

13      already.  And being white crossover or turnout or

14      whatever, it should give us a relatively good base

15      to make comparisons because four elections may be

16      due to different context in which all of these

17      elections took place, but because you have four,

18      you average out different factors, being white

19      crossover, or turnout disparity, whatever.  So I

20      use average percent vote for BPC.  I think it's a

21      better measurement rather than simply using white

22      crossover vote alone, separately, or just for white

23      crossover, because, as you know, indeed, even

24      though RPV undeniably exists in South Carolina, it

25      does have a different level RPV depending upon
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 1   which black candidates are you talking about, say

 2   Obama, for example, a huge gap. But if you change

 3   the black candidate, you get different, even for

 4   white crossover. Even for Obama's own two

 5   presidential elections, he received a different

 6   white crossover. So I think my measurement here is

 7   a much better measurement than just white crossover

 8   alone.

 9   Q.   Thank you for all of that.

10   So just so I'm clear, Table 4 does not

11   report the level of white crossover voting; is that

12   correct?

13   A.   That's not -- that's not completely

14   true. I mean, it does factor into white crossover,

15   because in order to get this average percent of the

16   votes for BPC, let's just assume there's this great

17   level of white crossover, like you just assumed for

18   CD 1; certainly that will raise the average.

19   So to say my measurement doesn't

20   consider white crossover is too simplified, it's

21   not a clear or a complete justification of what I

22   did.

23   Q.   Okay. Well, let me ask the question

24   this way. Table 4 does not report any percentages

25   or totals of white crossover voting, correct?

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 1                A.    Um, it's already factored into, because

 2        obviously, you know, the RPV analysis I had there,

 3        there is white crossover.  In this table, there is

 4        the RPV component, which is just above that.

 5                      So if I have -- I mean, obviously it's

 6        on my computer.  I can look at each election and

 7        give you, right away, the white crossover vote.

 8                      And the final measure of it also.

 9        Obviously, it has to be a mathematical result

10        that's related to white crossover votes.

11                      So your question is a little bit more

12        categorical to say I didn't do it.  I mean, that's

13        just not completely true.

14                Q.    So I think I'm trying to ask a question

15        that's actually a lot simpler.

16                      I'm just trying to understand the

17        numbers that are on the chart.

18                      So, before, I kind of asked you if it

19        was 29 percent of the vote was coming from white

20        voters or something like that, and you said you

21        didn't know and that's not on the chart, right?

22                      I understand you have that data

23        available to you, but I'm just confirming that the

24        chart itself doesn't give --

25                A.    Yes.
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 1              Q.   -- us the percentage or doesn't give us

 2      that number, right?

 3              A.   Oh, if that's what the question is

 4      about --

 5              Q.   Yes.

 6              A.   -- what I have in the table?

 7              Q.   Yes.

 8              A.   Right, there's not, yes.  You're right.

 9              Q.   And your effectiveness analysis doesn't

10      have that anywhere else in your report; isn't that

11      right?

12              A.   I mean, in this table, right.

13              Q.   Right, but --

14              A.   Right.

15              Q.   But in the text around the table, in

16      the effectiveness analysis section, your report

17      doesn't contain the white crossover vote

18      percentages or raw numbers or vote totals or

19      anything like that; is that right?

20              A.   Again, I mean, you made it sound like I

21      never even computed the white crossover.  I mean, I

22      did.  For each election, there is white crossover

23      and it's in my computer.

24                   What I have given you is the aggregated

25      results.  I guess that's all I can say.  I never
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 1     cut it off.  I mean, white crossover is a part of

 2     my analysis always --

 3          Q.   Right.

 4          A.   -- and will forever be.

 5               So these are the results based on

 6     aggregate, being a part of my analysis.

 7          Q.   Yes, and I understand your analysis.

 8     I'm just wondering, for someone like me who doesn't

 9     have your data in front of me, if I wanted to know,

10     like the question I asked you before, about the

11     Harpootlian plan, I said, Okay, it's a 21-percent

12     BVAP district and it's a 50-percent average vote

13     share for black preferred candidate, how can I

14     figure out what the white crossover vote was, I

15     have to go to something other than your chart,

16     right?  It's not in your chart.

17          A.   Yeah, yeah.

18          Q.   Okay.

19          A.   That's right.  That's right.  That's

20     exactly right.  But it is in my computer.  That's

21     why I said, in some of the remedy stages, I mean,

22     actually both sides may consult me with, okay, If

23     we draw this way or that way, what kind of white

24     crossover are we talking about?  I can give them

25     the answer right away, because it's always a part
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 1      of what I do.  But in this table, obviously it's

 2      not there.

 3                  And plus I have four elections and I

 4      have seven districts.  Just imagine -- I mean, and

 5      I analyzed four plans -- how many numbers.  I mean,

 6      I will have to use more than ten pages to give you

 7      all of the detailed results.  Obviously that will

 8      be confusing to everyone.

 9           Q.   Let me ask you a couple of more

10      questions about the Harpootlian plan.

11                  So according to Table 2, CD 2 in the

12      Harpootlian plan has a 22 percent BVAP; is that

13      right?

14           A.   Yes.

15           Q.   And that's higher than the 21 percent

16      in CD 1?

17           A.   Yes.

18           Q.   And when we scroll down to the average

19      percent vote share for the black preferred

20      candidate, in the Harpootlian plan in CD 2 it's

21      only 35 percent, as opposed to 50 percent in CD 1;

22      is that right?

23           A.   Yes.

24           Q.   So can we conclude from that that in CD

25      2, in the Harpootlian plan, there is less white
```

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1   crossover voting than there is in CD 1?

2   A.   Again, without those detailed data in

3   front of me, I would say it's reasonable, what you

4   just said, but I have to double check whether

5   that's the exact case, but it is a very reasonable

6   assumption.

7   Q.   And let's do the same thing with

8   District 5 in the Harpootlian plan, which has a 34

9   percent BVAP, and which is higher than the 22

10   percent in CD 2 or the 21 percent in CD 1.

11   In fact, it's more than double the BVAP

12   in CD 1. Well, no, not more than double. It's 34

13   percent versus 21 percent, so it's more than 50

14   percent greater than the BVAP in CD 1; is that

15   right?

16   A.   Yes.

17   Q.   And when we scroll down to the average

18   percent vote for BPC, it's only 47 percent in

19   District 5 in the Harpootlian plan and still 50

20   percent in District 1; so is it again reasonable to

21   conclude that there's less white crossover voting

22   in Harpootlian District 5 than in Harpootlian

23   District 1?

24   A.   Could you repeat your very last -- are

25   we comparing CD 5 to CD 1?

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  1            Q.    Yes, sir.

  2            A.    Okay.

  3            Q.    My question is, if Harpootlian District

  4    5 has 34 percent BVAP and 47 percent average share,

  5    vote share, compared to Harpootlian District 1

  6    which has 21 percent BVAP and 50 percent average

  7    vote share, is it reasonable to conclude that

  8    District 5 has less white crossover voting than

  9    District 1?

 10            A.    Well, again, I mean, all of these

 11    hypothetical questions...

 12                  I have to do the numbers to give you a

 13    firm answer, but it seems like these are much

 14    closer.  I mean, 50 percent versus 47 percent, you

 15    know, we're taking about, on average, is 3 percent

 16    difference.

 17                  So maybe with some elections, one out

 18    of four, you may have a lot of white crossover, but

 19    other ones just very minimal.

 20                  I mean, there are just so many factors,

 21    but you're asking me categorical answers.  I can't

 22    help you with a categorical answer, but I can only

 23    say, well, maybe this is likely due to crossover,

 24    but not likely.  That's all I can say.

 25                  But depending upon, you know, real
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 1      data, what is revealed.  But, I mean, I see your

 2      logic, but I just cannot give you a categorical

 3      answer one way or another because there are many

 4      factors that may contribute to finally why this is

 5      the case.

 6              Q.   But I think you do agree, and you have

 7      agreed already, that in these districts, white

 8      crossover voting is a significant factor in the

 9      black preferred candidate's vote share.

10                  Do you agree with that?

11                  MR. CUSICK:  Objection as to form.

12                  THE WITNESS:  I don't agree with your

13              word significant.

14                  Should I answer it?

15                  MR. CUSICK:  You can go ahead and

16              answer, Doctor.

17                  THE WITNESS:  I mean, I never used the

18              word significant.  I think white crossover

19              is forever an empirical question for us as

20              scholars.  It always does.  It will always

21              be.  We always pay attention to white

22              crossover, especially for elections that are

23              highly competed by the two major parties and

24              they are neck and neck, and so on.

25                  But I don't want to give a testimony
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1   based on just what you just compared to

2   either District 1 versus District 5 or

3   whatever otherwise, it's due to white

4   crossover, or it's only because of white

5   crossover.

6   I don't -- I don't see a reason for me

7   to make that categorical answer, but it's no

8   secret in South Carolina sometimes there are

9   some white voters that voted for black

10   candidates.

11   It just depends on what elections we

12   are talking about, what institutes we are

13   talking about. Again, I don't know what you

14   want me to answer. That's all I can say at

15   this point.

16   BY MR. GORE:

17   Q.   So at this point I'm not drawing a

18   comparative analysis. Let's just go back to

19   Harpootlian plan District 1, 21 percent BVAP and 50

20   percent average vote share for the black preferred

21   candidate.

22   Would you expect that series of

23   elections that yield those results to have

24   significant white crossover voting?

25   A.   Again, you use words like significant.

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1   I don't know even how to define significant. Of

2   course, in all elections, there are some white

3   crossovers, but are you talking about whether they

4   mattered, they changed the election outcome for

5   you, and all of that? That's a very difficult

6   question.

7   I spent my whole professional career --

8   actually, my dissertation is about white crossover.

9   They tend to vary a lot depending upon contextual

10   effect.

11   Sometimes, to just give you a quick

12   example, in New Orleans, before Katrina you would

13   see a lot of white crossover for a leading black

14   candidate, such as Mayor Ray Nagin. But then

15   Katrina happened. All of the sudden the city comes

16   back, becoming more white, the white crossover is

17   gone.

18   So white crossover is very time

19   sensitive and contextually sensitive, measured.

20   And it's so hard for scholars like me to

21   categorically report a straight answer like, okay,

22   you draw districts just like this one or that one,

23   you will rely on this percentage of white crossover

24   to get the black preferred candidate to win.

25   That kind of testimony I have never

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 1     given, because it's just so hard in this era of

 2     Trump, like my new book documented.

 3               White crossover can just reverse itself

 4     so rapidly in the states that elected president

 5     Obama, such as Indiana.  Just look at the white

 6     vote in 2020 versus 2008.  It's just very hard to

 7     predict by using white crossover, like, a

 8     significant factor to project what election

 9     eventually will take place.

10               But, granted, I mean, I see your logic.

11     White crossover is crucial, of course.  All

12     empirical scholars agree with that.  Black

13     candidates of course try their best to appeal to

14     white voters, even in the south, but it's just not

15     that stable.  It cannot be a stable factor you can

16     rely on election after election and to produce

17     results in your favor.

18               And I would be happy to give you even

19     more lecture about white crossover in the context

20     of the U.S., but that's the best answer I can give

21     you.

22          Q.   Thank you for that.

23               So in your effectiveness analysis, you

24     didn't analyze how well the plans complied with

25     traditional district principles, correct?
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1   A.   In my original report or the rebuttal

2   to Mr. Trende? Because they are a little

3   different.

4   Q.   Just here in this report, in your

5   original report.

6   A.   Okay, okay, yeah, my original report

7   has the focus that is RPV and then effectiveness

8   analysis and then race versus party. So these are

9   my focus, yes.

10   Q.   And so you didn't focus on traditional

11   districting principles in your first report; is

12   that right?

13   A.   Yeah, I mean, that was not my -- I

14   mean, of course, I do pay attention to all of these

15   criteria and guidance, but my specialty is to

16   analyze elections and find which plan would give

17   black voters more opportunity to elect a black

18   candidate of their choice.

19   So I'm not a scholar of, say, community

20   of interest or compactness or other principles.

21   I'm super familiar with those things, but by no

22   means I'm eligible to provide my expertise or

23   testimony to the court on those matters.

24   Q.   And one more question.

25   Did you provide any analysis or opinion

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 1      in either of your reports about the first Gingles

 2      precondition?

 3              A.   No, and especially this case is not a

 4      Section 2 case, so I didn't; I didn't give any

 5      opinion at all.

 6              MR. GORE:  Let's go off the record for

 7          a moment.

 8              (A recess transpired.)

 9      BY MR. GORE:

10              Q.   Dr. Liu, did you talk to your counsel

11      during the break?

12              A.   Not at all.

13              Q.   All right.  Let's move on to the next

14      topic, which is on Page 14 of your report, Table 5?

15              A.   Okay.  Okay.

16              Q.   And this is titled, "How VTDs Were

17      Moved Around Based on the Enacted Plan."

18              Is that right?

19              A.   Yes, yes.

20              Q.   And you have a column here that's the

21      number of VTDs remained, the number of VTDs moved

22      out, and the number of VTDs split into 1+.

23              Is that right?

24              A.   Yes.

25              Q.   And can you explain this last column to
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 1   me?   What do you mean by number of VTDs split into

 2   1+?

 3   A.   Yes, so this table is about how VTDs

 4   were moved around, so from one district to another

 5   and so on and so forth, but some VTDs are not

 6   completely moved from one district to another.

 7   They're from District 6 to District 1.

 8   But part of it -- so this particular VTD would be

 9   split between CD 6 and CD 1, so therefore it's 1+,

10   meaning multiple districts this VTD may belong to.

11   Q.   Okay. So in the far right-hand column,

12   do these numbers represent VTDs that are split in

13   the enacted plan?

14   A.   Yes.

15   Q.   And where -- where did you get the VTD

16   information from?

17   A.   Yes, as I stated earlier, the data that

18   I run are from the data team of ACLU who provided

19   the documentation in Appendix III of my report.

20   Q.   And are these the 2020 VTDs in South

21   Carolina?

22   A.   Yes.

23   Q.   This chart does not show the number of

24   VTDs moved into each district; is that right?

25   A.   Uh, "into," um, right, it's not here.

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 1   Q.   Is there a reason why you did not

 2   include that information in this chart?

 3   A.   I remember now, because it's

 4   mathematically, uh, a derivative of the other two

 5   columns, because a VTD can be either "remain" or

 6   "moved out."

 7   So if it's moved out, it will move into

 8   another, right? Do you see my point?

 9   So, in other words, as you see from,

10   say, enacted District Number 1, the first row, you

11   will see the number of VTDs that remain, the number

12   of VTDs that moved out. But moved out to where,

13   right? Moved out, according to this particular

14   row. Well, moved out to 6.

15   Why? Because in row number 6, there is

16   this voter from original district, so 6, 1, 2, 5.

17   So there you can see, it's from -- there is -- from

18   the 1.

19   So that's why you know that you have

20   these two columns. You will derive the VTD moved

21   into, because mathematically it's just -- how do I

22   put it -- you could just simply use addition, um,

23   deduction, and stuff like that, to get to -- to

24   derive that. I believe that's the reason for why

25   it's not included in this table? Because it moved

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1   out to where? Well, it moved out to a particular

2   district. And you can go to the particular

3   district to check, okay, what kind of districts are

4   receiving, right? So you can see that from the

5   second column. That's where you can see. But

6   I think you get the point here too. But how many

7   of them are moved into whatever district, from what

8   district? I believe that would be, like, at least

9   two more columns. Probably that was the reason for

10   me to just make it succinct. You know, Table 5

11   has, already, five columns. Probably that was the

12   reason I didn't put all of the "moved into" in

13   details here.

14   Q.   Okay. And what about districts that

15   received voters from more than one original

16   district, like District 3?

17   A.   Right.

18   Q.   If 25 VTDs are moved out of 3, how can

19   I tell where those went?

20   A.   Yeah. That's a good question, right?

21   So let's focus on 3.

22   So for District 3, voters are from

23   three of them, original 3, original 4 and original

24   5. So we know, for sure, that these are the

25   districts that contribute to the new enacted

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1   district.

2   But some of the three are moved away.

3   How do I know? Just look at this same column. You

4   will see, oh, some of them go to District 4.

5   And that's it. Because for District 3,

6   the only replicate of that same number is between 3

7   and 4, so you know the destination is 4.

8   Does that make any sense?

9   Q.   Well, let me ask you about District 4,

10   enacted District 4. It says three VTDs were moved

11   out.

12   A.   Okay.

13   Q.   But it shows that District 4

14   contributed pop -- original District 4 contributed

15   population to District 3 and District 5. So how

16   can I know how many --

17   A.   Well, the original -- yeah, so original

18   District 4, you can see that some of them stay in

19   District 4 because it's right there in the fourth

20   row, and some of them goes to 3. Some of them goes

21   to 5. Because the 4, number 4, appeared in the

22   third row and in the fifth row. So that's why you

23   know District 4. Some of them moved into 3. Some

24   of them moved to 5. That's how you read it.

25   Q.   Yeah, I understand that. But I can't

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 1      tell how many moved from 4 to 3 and how many moved

 2      from 4 to 5?

 3              A.   Okay, yeah, right, right, right that's

 4      a great question, yeah, I -- yeah, yeah.  I can do

 5      more.

 6              Q.   No, I'm just -- again, I'm trying to

 7      understand your chart.  I'm not suggesting you do

 8      more or less.  I'm just trying to understand your

 9      chart.

10              A.   Yeah, yeah.

11              Q.   All right.  Let's move on to the

12      empirical study of race versus party which starts

13      at the bottom of Page 14.

14              A.   Okay.

15              Q.   Dr. Liu, did you draw any maps for the

16      South Carolina Congressional Plan?

17              A.   Again, I'm not a demographer, so it's

18      not my field.

19              Q.   So will you briefly explain the

20      analysis you did in what you call your empirical

21      study of race versus party?

22              A.   Sure, yeah, so just like the typical

23      social science research project, there is a

24      hypothesis that race is the reason how VTDs are

25      moved around, either moved out or moved in or
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 1      stayed.  So this is what we do know.  But whether

 2      race is a factor according to this hypothesis, we

 3      have to use data to examine race.

 4                 However, there's a competing hypothesis

 5      that the party is a reason for why VTDs are moved

 6      around.  So now you have a party factor to look

 7      into.

 8                 So for social scientists, when you face

 9      questions like this, you have to do what we call

10      the control comparison in critical analysis,

11      meaning you put a party and race together and hold

12      constant, say, same party, and then see whether

13      race plays a role in terms of a particular test,

14      then you see the difference.

15                 Or the other way around.  You keep race

16      constant.  You see how changing parties will give

17      you different results.  It's absolutely statistics

18      101.  It's called controlled comparison.  And

19      that's exactly what I did.

20                 So I used, obviously, the three

21      categories, meaning core, meaning the VTDs that

22      stayed in a particular district and never moved

23      away, it's inside the core, or moved out to a

24      different district, or a different district moved

25      some of the district in.  So there's three
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 1      categories that are mutually exclusive, of course

 2      with the caveat of some split VTDs, which you can

 3      see in Table 5.  But, luckily, not too many VTDs

 4      are split.  So it's manageable.

 5                   So what I do is to use tables and

 6      charts to show not only statistical results, but

 7      also visual representation of the results of this

 8      controlled comparison.

 9                   And that's what Table 6 is about, Table

10      7 is about, and also Figure 1 and Figure 2 are

11      about.

12                   And so the way to read it is this:  So

13      we want to, again, keep, say, a party constant, so

14      the same Democratic party, or what if white

15      Democrat, or if it's black Democrat.  Do we see any

16      difference?  If we see difference, then it's a

17      question one has to ask why there's a difference,

18      and why so.  So that's how you read Table 6.

19                   But how I got the data for Table 6 in

20      the first place?  Remember, in South Carolina,

21      there is no party registration data that I can rely

22      on immediately.  What I was fortunate to have in

23      the data is the actual turnout by race.  And this

24      is collected by the South Carolina Election

25      Commission.
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1   So you absolutely have every precinct

2   who voted and what's the race and the tally of each

3   racial group. So that's great news for me, because

4   at least I have this racial data that I can rely

5   on, even without using census data, because it's

6   from the Election Commission, the highest quality

7   data one can get.

8   So which election do I look at? I

9   looked at the 2018 gubernatorial primary elections.

10   Why do I use primary elections? Well, because

11   there are two different parties and voters can

12   choose. And they vote -- they have to vote on the

13   same day, simultaneously, either for Democratic

14   party or Republican party. Of course, some voters

15   choose to stay home and not to vote in the primary

16   at all. And some voters become third party or

17   independent, so they don't vote at all.

18   But there are voters who decided to

19   vote for the gubernatorial Democratic nomination

20   and also there are voters who voted for the

21   Republican gubernatorial nomination; and that's

22   where I got the data. So now I can do the

23   controlled comparison.

24   So may I just simply use Table 6 as an

25   example, Mr. Gore?

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1   Q.   I was about to direct you to Table 6.

2   A.   Okay.

3   Q.   Can you go there? And may I ask one

4   question before you go any further?

5   A.   Sure, sure.

6   Q.   It's on Page 16, Table 6.

7   Is the VTD dataset you use for this

8   analysis the same VTD dataset you got from the

9   Plaintiff's data team and that we were just talking

10   about in Table 5?

11   A.   Yeah, yeah, that's a great question.

12   The answer is yes because the ACLU data

13   team went through the process that I've documented

14   in Appendix III, first to disaggregate the census

15   data from VTDs to a block, which is the smallest

16   unit in census. So they disaggregate a big VTD

17   into, like, small blocks, which you can imagine a

18   neighborhood.

19   And then they matched the

20   demographics -- say, black voting age population --

21   with whatever particular election, in this case,

22   gubernatorial, right? So gubernatorial election in

23   2018. So they match the two. And then after they

24   matched, they went back to aggregated VTDs. So the

25   answer to your question is, indeed, each row, for

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 1   me, is the VTD, in my dataset.

 2   But in this case, the good news, as I

 3   stated earlier, is that the Election Commission of

 4   South Carolina does have the racial data for each

 5   precinct in the first place. They have that in

 6   their record. You can just download it easily.

 7   So I don't even need to use census data

 8   at all. So all I rely on is the ACLU dataset that

 9   contains all of these VTD rows which are matched

10   with the precinct, like I just described earlier.

11   But just look at the columns in the

12   dataset for this particular election and the black

13   voters who are in the Democratic primary, white

14   voters who are in the primary, and so on and so

15   forth. So to answer your question again, it's VTDs

16   that each case, each row of my spreadsheet, and

17   they are, indeed, the VTD matched with the

18   political precinct.

19   Q.   And, Dr. Liu, is the reason that the

20   racial data by precinct is available, that South

21   Carolina has registration by race?

22   A.   Um, I think it does. It doesn't have

23   party registration, because I asked, and I think I

24   even went to the website, and I didn't find party,

25   but there was race.

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1   But that was, like, in each election,

2   voters cast their vote but their racial category is

3   also recorded in the Election Commission dataset.

4   So, in this case, it is what we call

5   the turnout race data, because each voter who

6   voted, their race is recorded by the Commission as

7   well.

8   So there's no registration data. I do

9   believe, indeed, there is registration data in

10   South Carolina by race as well, but this data that

11   I'm relying on here in Table 6 is the racial

12   turnout.

13   Q.   Got it, thank you.

14   A.   Sure. Should I go --

15   Q.   So I have a couple of questions. I

16   have a few questions, but if there's more you would

17   like to put on the record briefly, that would be

18   fine too.

19   A.   No, I'm fine. I'm just saying I'm

20   ready to explain Table 6, the controlled

21   comparison.

22   Q.   Thank you.

23   A.   Sure.

24   Q.   So let me ask a few questions first.

25   Do you know who the candidates were in

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1   the 2018 Democratic gubernatorial primary?

2   A.   Um, I think I did know when I collected

3   data, but, then, of course, my attention moved away

4   quickly, because it's about participation of all of

5   these voters in elections.

6   But I did check with my counsel, I

7   remember vividly; I need a primary election that

8   had both Democratic party candidates and Republican

9   party candidates running at the same time.

10   So, that, I'm sure, but I just cannot

11   recall names at this point, because that's not a

12   focus of my analysis.

13   Q.   Do you recall whether the 2018

14   Democratic gubernatorial primary was a biracial

15   election?

16   A.   I don't think so. I may be wrong. But

17   whether it's biracial or not in this particular

18   analysis was not important because I'm not doing

19   RPV analysis. I simply look at who voted in the

20   primary for the Democratic side and who voted for

21   the Republican side, because I know they can only

22   choose one side. Then I know this data will give

23   me the most recent and most reliable baseline to

24   understand the party affiliation because I don't

25   have registration data by party. This is the best

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 1      I could get, as most recent as possible, the party

 2      affiliation measure.

 3                    So I don't -- I don't recall that it's

 4      biracial because it was not in my criteria at all.

 5      I believe it was just uni-racial.

 6           Q.   I think I may know the answer to my

 7      next question so I'm hoping you can just give me a

 8      yes or no.

 9           A.   Okay.

10           Q.   Do you recall whether the 2018

11      Republican gubernatorial primary was a biracial

12      election?

13           A.   Again, I don't recall.  It's not my

14      criteria at all.  My rough memory is probably not,

15      because I never paid attention.  I mean, I never

16      wanted that.

17                    So, anyway, again, my criteria is there

18      has to be competition in both parties in the

19      nomination contest, that's the only essential

20      condition, so that I know who participated in which

21      primary.

22           Q.   And would it be possible to conduct

23      your empirical study using the 2020 presidential

24      general election as your election dataset?

25           A.   That would not work because it's
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 1   not -- there's no party, because the South Carolina

 2   Election Commission data simply gives you, for each

 3   precinct, the racial groups who voted in that

 4   presidential 2020 general election, but there's no

 5   party. There's no party of these voters. There's

 6   no information about that. So the problem is,

 7   there are some party loyal voters who may be, you

 8   know, for whatever reason, against their own party.

 9   Let's say a Democratic voter may vote against

10   Biden, or the Republican voter may vote against

11   Trump. So by using the 2020 general election, you

12   would not have that party affiliation picture, I

13   mean, even though you can assume super majority of

14   a party would vote for whatever the party he or she

15   has been loyal to for a long time, but that doesn't

16   necessarily carry over in each election.

17   So that's the difficulty that we faced

18   without party registration data.

19   Q.   But earlier in your report you were

20   able to use ecological inference to determine --

21   A.   Right.

22   Q.   -- what percentage of voters of each

23   race voted for Joe Biden, right?

24   A.   Yes, we can use that for race analysis.

25   But, remember, earlier, my tables don't have

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1   anything about party. It's only about, you know,

2   black voters voting for black candidates or, you

3   know, whatever, white crossover and such.

4   So here is the control comparison and

5   so you have to know simultaneously the party and

6   race. That's why.

7   Q.   Okay. But you could have done the

8   analysis. So let me back up.

9   I understand what you're saying is that

10   the party affiliation isn't an immutable

11   characteristic. It can change. Is that right?

12   A.   Yes.

13   Q.   And even when a voter's party

14   affiliation doesn't change, the voter may vote for

15   a candidate of the other party.

16   Is that right?

17   A.   Yes.

18   Q.   So I think your example was Democrats

19   who for some reason didn't vote for Joe Biden; is

20   that right?

21   A.   Yes.

22   Q.   And you might have had Republicans who

23   voted for Joe Biden as opposed to Donald Trump; is

24   that right?

25   A.   Yeah, and that is true for the third

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1   party, right? You have a lot of third-party voters

2   as well. And that would take away your accuracy

3   about, in this case, a Democrat versus Republican.

4   That's the focus of this analysis.

5   Q.   So using the 2020 presidential election

6   data you gathered and did the EI on, could you have

7   done this chart differently at Table 6, could you,

8   instead of doing --

9   A.   Oh, I could --

10   Q.   My question is, Instead of using party

11   registration, could you have used the party of the

12   presidential candidate for whom they voted such

13   that Table 6, instead of saying white Dem, black

14   Dem, white Rep, black Rep, could say white Biden,

15   black Biden, white Trump, black Trump?

16   A.   Yeah, that's what I did in the earlier

17   EI analysis.

18   Q.   So you could have done that as well in

19   Table 6?

20   A.   But, again, what I just stated earlier,

21   the white Biden doesn't mean it's a white Democrat,

22   right? Do you see my point?

23   Q.   Sure, it may not be --

24   A.   So --

25   Q.   -- it may not be a perfect correlation,

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 1      but --

 2              A.    That's why it's lesser of academic

 3      scrutiny, or it faces less power when you put this

 4      to academic scrutiny about your data when you do

 5      the 2020 as opposed to 2018, because 2018 is the

 6      party denomination.  By definition, it's for the

 7      party.

 8              So why do you want to risk your

 9      accuracy by using otherwise contaminated datasets?

10      As scholars, we don't want to do that.  We want to

11      do analysis by using the dataset that has minimal

12      factors of disturbance; that's what we call it in

13      statistics.  You want to use as reliable and valid

14      data as you can.  In my case, 2018 certainly is

15      much better than 2020.

16              Q.    Let me ask this question:  If instead

17      of wanting to know the treatment of Democrats

18      versus Republicans, the question was how does the

19      enacted plan move Biden voters and Trump voters,

20      would you then use the 2020 presidential election

21      data instead?

22              A.    There is not a race-versus-party test

23      anymore; it's a Biden test versus Trump, right?

24              So that takes away the whole -- what do

25      you call it -- tools or necessity to engage in the
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1   empirical analysis of this particular lawsuit,

2   because the Defendants argue it's for partisan

3   reasons, it's for, you know, whatever particular

4   party's advantage. It's not only for Biden. And

5   that's why Trende's report is so misleading.

6   And, by the way, he never did any

7   controlled comparison. He never puts race and

8   party together in any language, not to mention to

9   do an empirical test. He just did one at a time.

10   And there's no statistical comparison at all.

11   So this table that you see, Table 6,

12   is, at least, to my knowledge, the best effort a

13   scholar can come up with for South Carolina to put

14   party together with race and see which one gives

15   you more explanation, explanatory power; that's the

16   statistical term.

17   (Reporter clarification.)

18   BY MR. GORE:

19   Q.   Well, okay, what if the question the

20   map drawer wanted to answer was not the effect on

21   voters by party registration, but by the party the

22   voter supported in the 2020 presidential election?

23   Wouldn't, then, it be more appropriate

24   to use the 2020 presidential election data to

25   answer that question?

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 1   A.   Um, well, if you switch the question

 2   into what party or what candidate they voted for,

 3   obviously you would change the center of this

 4   lawsuit.

 5   In my view, at least that's what I read

 6   the Complaint and also Mr. Trende's report; it's my

 7   belief it's about partisan advantage, because we're

 8   talking about congressional districts.

 9   Is it for the Republican's advantage or

10   the Democratic advantage? So the question is not

11   about Biden voters or Trump voters.

12   But if you want to switch your question

13   to that, of course, if you want to ask about that,

14   you want me to analyze Trump voters versus Biden

15   voters, of course you can do that.

16   Q.   Okay.

17   A.   My RPV already had that. But that

18   doesn't answer the question at all about either

19   it's race or party that gives us more explanatory

20   power to process, to understand the redistricting

21   results, according to the enacted plan. So that's

22   why I designed my election, in this analysis, as

23   the 2018 gubernatorial election.

24   By the way, I also -- it's also

25   important to -- actually not to use the 2020

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 1      election, because the 2020 election, as we all

 2      know, is a historical election.

 3                  Not all congressional elections in the

 4      future are historical elections.  Very few

 5      elections would generate enough enthusiasm as much

 6      as we saw in the 2020 presidential election, in

 7      addition to the disturbance that I mentioned

 8      earlier where voters may switch their party, may

 9      change their mind to vote for a different party,

10      but also independents, and other factors on the

11      election day that may change the otherwise normal

12      congressional election circumstances, which is at

13      the heart of this lawsuit.

14                  So that's why, in my view, 2018 is much

15      more appropriate because it's not a historical

16      election.  It is a party nomination contest.

17      Voters can choose which party you can vote.  Both

18      parties have candidates running.  So that's why I

19      think my choice is much more -- much more realistic

20      so as to answer the question of race versus party

21      as far as redistricting for congressional districts

22      is concerned.

23           Q.   And do you know whether the map drawer

24      of the enacted plan considered party registration

25      or 2020 presidential election results in
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1   determining the partisan or political performance

2   of the plan?

3   A.   I have no prior knowledge of what they

4   did. I did read the Complaint of the Plaintiffs in

5   which they argued it was not transparent.

6   A lot of principles like community of

7   interest is not protected as far as especially the

8   North Charleston area is concerned.

9   I don't know how the House and then the

10   Senate side decided and then voted for that,

11   because I don't know how they moved voters around,

12   but I do know the result shows, after they put the

13   enacted plan together and passed in the legislation

14   signed by the governor, the results, that's what I

15   do know. Some voters are moved out, some voters

16   are moved in, stuff like that. Those results, I do

17   know, based on the data.

18   So with the data, as a scholar, my job

19   is to find the best way to test why the voters are

20   moved out or moved in, is it because of race or

21   party, based on the most high-quality data I have,

22   which is, in my view, the 2018 gubernatorial data

23   in the primaries for both parties. So that's why.

24   Q.   Dr. Liu, if Table 6 instead were white

25   Biden, black Biden, white Trump, black Trump, could

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1   the numbers and percentages shown here be

2   different?

3   A.   Oh, they are different for sure.

4   I mean, no two elections will give you

5   the exact same results. But whether the pattern

6   will be like what it is that I show in Table 6, I

7   don't know, because white Biden, black Biden, to

8   me, is not equivalent to white Democrat and black

9   Democrat.

10   But my Table 6 is certainly the clear

11   and realistic reflection of why Democratic

12   participation, or black Democratic participation,

13   and so on and so forth, so I don't know why they

14   were drawn.

15   Q.   I would like to ask a few more

16   questions about the table generally.

17   First I want to talk about VTDs.

18   You have core VTDs, "into VTDs" and

19   "out VTDs"; is that right?

20   A.   Yes, correct.

21   Q.   Okay. Do you believe that all VTDs in

22   the benchmark district were equally likely to be

23   moved in the enacted plan?

24   A.   That -- if I understand your question

25   clearly, you are talking about whether the core

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 1       VTDs I see in the enacted plan is pretty similar to

 2       what already contained in the benchmark district.

 3                    Am I right?  Is that your question,

 4       whether these cores are the same?  That's what

 5       you're asking?

 6            Q.   Why don't you answer that question and

 7       then I will ask a follow-up.

 8            A.   Yes, I do have a test, a verification

 9       study, by using Professor Ansolabehere of Harvard's

10       test.

11                    THE WITNESS:  Again, I'm sorry, my

12            earpiece --

13                    THE COURT REPORTER:  I can hear them

14            going, yes.

15                    THE WITNESS:  They are still working

16            but maybe we will run out of battery.

17                    (Technical difficulties.)

18                    THE WITNESS:  I did have a test that I

19            engaged in terms of how districts were drawn

20            based on what they call the envelope, he

21            called the envelope.  So I do know basically

22            how the core is shaped up.  So I can answer

23            questions maybe later.

24                    But to answer your question

25            directly -- uh -- uh, the enacted plan
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 1              versus the benchmark plan was certainly --

 2              there are some similarities, but there are

 3              crucial differences as well.

 4       BY MR. GORE:

 5              Q.   So let me ask a slightly different

 6       question.

 7                   In District 1, some VTDs are located on

 8       the district border with District 6 or with other

 9       districts, correct?

10              A.   Uh-huh, yes.

11              Q.   And some VTDs are located in the middle

12       of District 1, correct?

13              A.   Yes.

14              Q.   And some VTDs are located adjacent to

15       the ocean, correct?

16              A.   Uh, yeah, for some, some counties in a

17       coastal area, yes, for sure.

18              Q.   Because District 1 takes in a large

19       portion of the South Carolina coast, right?

20              A.   Yeah.

21              Q.   Okay.

22              A.   Yes.

23              Q.   So my question is, were some VTDs in

24       District 1 -- were some VTDs in District 1 more

25       likely to move out of District 1 than others?
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 1            A.    Could you repeat that, please.

 2            Q.    So the map drawer has the benchmark

 3     plan with District 1, you've shown on this chart

 4     VTDs that stayed in District 1 --

 5            A.    Yes.

 6            Q.    -- moved out of District 1 and moved

 7     into District 1, right?

 8            A.    Yes.

 9            Q.    My question is, in District 1, were

10     some VTDs more likely to move out of District 1

11     than other VTDs in District 1?

12            A.    Well, you have to ask the mapmaker.  I

13     don't know the clear answer to that.  But there is

14     at least some empirical data that I can get to

15     where, indeed, location matters.

16                 It depends on where the VTDs are in CD

17     1, especially if it's in the North Charleston area.

18     That area, VTDs, especially when black, are a huge

19     presence, are moved out and moved into District 6.

20     You ask me why is that so?  Is it because it's more

21     likely to be moved out or -- I cannot answer that

22     question.  You would have to ask the mapmaker.

23            Q.    Okay.  But is it consistent with your

24     understanding that VTDs on the border of the

25     district are more likely to be moved than VTDs in
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1   the middle of the district?

2   A.   Well, again, I'm not a mapmaker but

3   obviously from my intuitive understanding of

4   mapmaking as a layperson, the answer is it depends

5   on borders. You can change borders drastically.

6   Originally, a border district -- or

7   VTD -- a border VTD -- may all of the sudden become

8   not border anymore. It all depends on how you draw

9   the boundaries, right?

10   So my answer to your question is, at

11   least based on my layperson perspective, is

12   absolutely not. It depends on what's their

13   philosophy of joining the boundaries in the first

14   place.

15   Q.   So what if a mapmaker wanted to

16   preserve the core and the basic shape of the

17   district? In that scenario, is it more likely that

18   VTDs on the border are going to move, or VTDs

19   in the middle of the district?

20   A.   Well, again, it depends on many things.

21   So, for instance, in CD 1, there are six counties.

22   You know, a lot of them are in border areas, but

23   not all of them are treated the same way.

24   You know, Berkeley, Beaufort, are

25   treated favorably because they keep the border

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 1        whole, the county whole, all of these become

 2        precious, and cherish the principle.

 3                    But when it comes to, all of the

 4        sudden, Charleston, you know, or Dorchester, or

 5        Jasper, or Clayton, all of these principles are

 6        falling apart, they become lesser in the important

 7        decisionmaking process.

 8                    So, again, I'm not a mapmaker, I don't

 9        know the details, I do not have specialty in

10        geocoding at all, but the data speaks loud.

11                    The data shows it's black voters that

12        are likely to be split, moved around.  Then one has

13        to ask why.  You cannot simply use natural

14        boundaries to explain away everything.

15                    You may say, okay, for pockets of black

16        voters, it's because of the traditional principle

17        or one way or another, but you cannot explain away

18        a systematic approach to cheat black voters, to

19        crack them, to spread them out, to disperse them

20        into different districts, because data speaks

21        louder at that point than just simply assumption of

22        only one out of a few principles are being

23        protected.

24                    I cannot give you an answer about how a

25        map is made, but I'm clear, in my empirical data
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1   part, that blacks are more likely to be split --

2   actually 7 percent more likelihood based on my

3   statistical text to be split districts, much more

4   than white voters.

5   Q.   So just to be clear, Dr. Liu, I wasn't

6   asking you about natural boundaries or state lines;

7   I was asking you about district lines.

8   So let me ask the question this way --

9   A.   Okay.

10   Q.   -- and maybe this will help.

11   In this Table 6, you're simply looking

12   at whether the VTD stayed in the district, was

13   moved into the district, or moved out of the

14   district. And you didn't consider where in the

15   district that VTD was; did you?

16   A.   No.

17   Q.   Thank you.

18   A.   You're welcome.

19   Q.   Now, let me ask another question about

20   residential patterns.

21   A.   Okay.

22   Q.   Do black and white voters live in

23   evenly distributed patterns in District 1 or

24   anywhere in South Carolina?

25   A.   Again, I'm not an expert on demographic

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1   features in South Carolina. I have no expertise to

2   answer that question.

3   Q.   So we'll talk about this more when we

4   get to your rebuttal report, but I think your

5   rebuttal report said that the statewide BVAP in

6   South Carolina is, like, 25.28 percent.

7   Does that sound about right?

8   I'm not going to hold you to the

9   number?

10   A.   Yes, yes.

11   Q.   Okay.

12   A.   Yeah, I know.

13   Q.   And I believe your rebuttal report

14   identified counties that have a higher BVAP than

15   that, right?

16   A.   Yes.

17   Q.   And, of course, there are counties in

18   South Carolina that have a lower BVAP than that,

19   right?

20   A.   Yes.

21   Q.   And the same is true for VTDs, right?

22   There are some VTDs with really high BVAP and some

23   VTDs with very low BVAP, right?

24   A.   Of course, there are frequent

25   variations.

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1   Q.   And when you're looking at this Table 6

2   and you're talking about white dems, black dems,

3   white Republicans, black Republicans, and whether

4   they stayed in the district, moved into the

5   district or moved out of the district, did you

6   control for the BVAP of the VTD in which they

7   lived?

8   (Technical difficulties.)

9   THE COURT REPORTER: Your audio has

10   gone out.

11   MR. GORE: I think his earbuds have

12   died.

13   (Off-the-record discussion.)

14   THE WITNESS: Where were we?

15   BY MR. GORE:

16   Q.   So I was asking in this, in Table 6,

17   because we know that white voters and black voters

18   aren't distributed perfectly evenly across District

19   1, they may live in VTDs or counties that have a

20   higher or lower BVAP, did you control for that kind

21   of residential geography in Table 6?

22   A.   Like I said, there's no location in my

23   Table 6, and there's no way to control them in this

24   analysis at all, because this analysis is a

25   controlled comparison of race versus party, because

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1   the two sides argue against each other. One says

2   it's race; the other is party. And controlled

3   comparison is used universally as a statistical

4   tool.

5   And you can -- you can exhaust -- I

6   mean, you can actually add as many factors as

7   possible in statistical analysis. You can always

8   say there's another factor. Did you control

9   gender? Did you control class? Did you control,

10   you know, history? You can always add that. But

11   that's not the way we do science.

12   In science, when you have the two major

13   hypotheses competing against each other, you pit

14   the two against each other.

15   If the argument is all about location,

16   we'll have a location hypothesis test. My report

17   is race versus party, and that's how I faithfully

18   report here in this report. So certainly I didn't

19   do anything beyond these two factors.

20   Q.   So let me -- let me ask a follow-up on

21   that. We have white Democrats and black Democrats

22   in core VTDs, for example, and it's 17.3 percent of

23   white Democrats and 11.1 percent of black

24   Democrats.

25   A.   Yes.

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1   Q.   But if white and black Democrats live

2   in different parts of CD 1, might that explain why

3   more white Democrats stay in CD 1 than black

4   Democrats?

5   A.   Well, you can always add more factors,

6   right? You may even say, well, some of them are

7   older. All of these things can be explanations.

8   But what about the result itself? The result

9   itself says they vary.

10   But then you go to "into" category and

11   "out of" category, you see even more variation.

12   That's where you have to explain why.

13   For example, you say the white

14   Democrat, 17.3 percent in CD 1, let's just take

15   whatever your assumption is of location, whatever

16   that is. So what about into category? It becomes

17   9 percent. So what about the out category? It

18   becomes 22.1 percent.

19   As you see all of these three

20   categories together, you will see a pattern of who

21   is actually the target of this redistricting.

22   If your answer is, okay, only because

23   of location, then how do you explain all of these

24   variations?

25   So, to me, it is so clear that Table 6

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1   shows that the black voters become the targets of

2   moved into and moved out. Why? Because they are

3   such a small percentage of the core, which, by the

4   way, is a questionable fact, why they are such a

5   small percentage in the core to begin with.

6   But then you look at the into is 37.2

7   percent, a lot of them move into. Okay, you are

8   using the argument such as Berkeley County to make

9   whole or whatever that is. But then you look at

10   the outs. The out group, the out category, they

11   are 22 percent, which is doubled the amount of the

12   core percentage.

13   So you have to explain why the table

14   shows they are the target. If there is something

15   from Mr. Trende's report that shows exactly how

16   this happens, I would love to read it and get a

17   reaction to it, but there's no such thing at all.

18   It's based on what fits his narrative.

19   Sometimes he uses the principle of

20   keeping the benchmark as much as possible.

21   Sometimes he uses boundary. Sometimes he uses

22   whatever whole, precinct whole or county whole.

23   Well, if all of these are important,

24   what about race? Do you move blacks a lot? Are

25   you cracking them? Do you explain all of these

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1   based on simply the other factors. To me, he never

2   did that. I did. Because this is a controlled

3   comparison. Because I cannot make up these

4   numbers. These are just simply from the real

5   election data and also the enacted plan results.

6   So one has to explain all of these other than what

7   I have provided here. Without those, I stand by my

8   own conclusion. It is race that is obviously more

9   important than party. Because white Democrats and

10   black Democrats are treated differently. Even

11   white Republicans and black Republicans are treated

12   differently, so --

13   Q.   I'm trying to understand the reasons

14   for that. Sorry, I didn't mean to cut you off.

15   Did you have more to add?

16   A.   Okay, sure.

17   Q.   Did you have more to add? Sorry.

18   A.   No, no, no, I just -- I said not only

19   this table but also the chart of Figure 1 shows

20   that picture very clearly in terms of the height of

21   these bars. It is, to me, the fact. That's all I

22   want to say.

23   Q.   Okay, thank you.

24   All right. I think you said that the

25   only factors you considered here in this chart are

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 1      race and politics; is that right?
 2              A.   Yes, in order to do controlled
 3      comparison between race and party, you put them
 4      together against each other and see which one gives
 5      you a better answer of why they are shaping up as
 6      they are.
 7              Q.   So and I think you said earlier you
 8      didn't control for traditional districting
 9      principles in your report or in this chart; is that
10      correct?
11              A.   Correct.
12              Q.   So you didn't control for core
13      preservation?  Is that correct?
14              A.   There's no way for me to control, no, I
15      didn't.
16              Q.   And you didn't control for contiguity?
17      Is that right?
18              A.   No.
19              Q.   Communities of interest?
20              A.   These are topics I'm very familiar
21      with, but those are not my expertise.  What you
22      mentioned, maybe they violated those principles,
23      but that's not my expertise.
24              Q.   And how about preserving VTDs and
25      avoiding VTD splits; did you control for that here?
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 1              A.    Again, I'm not a demographer.  I don't

 2      know any geocoding.  So I don't know locations.

 3      And, you know, all of those specialties belong to

 4      other experts.

 5              Q.    Did you control for protecting

 6      incumbents?

 7              A.    Again, that's -- that's not what this

 8      report is about.

 9              Q.    The last one, how about communities of

10      interest?

11              A.    I have paid attention to communities of

12      interest, obviously.  Even though I am not an

13      expert to provide qualitative testimony about what

14      kind of community of interest and what interest

15      should be protected legally, historically and so

16      on.

17                    But my results speak loud about at

18      least how the black community of interest is not

19      protected in this enacted plan, especially

20      concerning CD 1 and CD 2, so...

21                    And I also responded to Mr. Trende's

22      report concerning his argument of community of

23      interest, but I'm not here to provide testimony as

24      an expert on community of interest.

25              Q.    All right.  I have some more questions
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1   about this table and your analysis.

2   Now, you acknowledge that there were

3   voters in these VTDs who did not vote in the 2018

4   primary, correct?

5   A.   Yes.

6   Q.   And do you know -- well, let me do it

7   this way. Looking at this chart on Table 6, would

8   it be possible to compute the total number of

9   voters in these two primary elections from CD 1?

10   A.   Oh, yeah, you add them up.

11   Q.   And if I told you that number was

12   113,928, would you have any basis to disagree with

13   me?

14   A.   Again, I didn't count myself, but I

15   take your word.

16   Q.   And do you happen to know how many

17   people of voting age are in District 1 in the

18   enacted plan?

19   A.   Well, again, I have seen those, but

20   you're testing my memory. Of course I cannot give

21   you an exact number. But these are just what the

22   data lead me to.

23   Q.   Okay. It's not a memory test. So if I

24   told you that that number was 570,538, would you

25   have any basis to disagree with that?

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 1   A.   Well, the number maybe is what you just

 2   described, but that doesn't take away this table,

 3   because this table is based on true elections;

 4   they're the voters who actually participated. And

 5   the race and the party are both recorded by public

 6   record.

 7   So, yep, there are voters who didn't

 8   participate, but, in fact, these voters who do

 9   participate -- and it's not a presidential

10   election; it's actually a midterm election. And

11   they show these disparities. It speaks loud. The

12   facts speak loud because it shows how different

13   voters are more favored than others in terms of the

14   core. They are more likely to be in the core, or

15   they are likely to be out, or they are, you know, a

16   newcomer, just bringing into this new district.

17   And it's so clear. Based on the

18   participants of the 2018 gubernatorial race, not

19   all voters are treated equally, and their race

20   mattered. And their party does matter, but it's

21   race that matters much more.

22   Q.   Okay, thank you for that. I'm not

23   trying to dispute your analysis right now. I'm

24   just trying to understand it.

25   And based on the numbers that I have

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1   run, it looks like the turnout in the 2018

2   gubernatorial primaries was around 19.97 percent.

3   Does that sound about right, or at

4   least plausible, or do you have any basis to

5   disagree with that number?

6   A.   Again, I take your words. By the way,

7   that's not a very large number for a primary season

8   which is not even in the presidential year, so,

9   yeah, that's just simply a fact.

10   Q.   Do you know how many people voted in

11   Congressional District 1 in the 2020 general

12   election?

13   A.   Again, I don't have a clear memory, I

14   may see that number, but I cannot give you a number

15   on the spot.

16   Q.   And if I told you that that number is

17   427,111, would you have any basis to dispute that

18   as you sit here right now?

19   A.   Again, it's your number. I take your

20   words.

21   Q.   Okay. Let me ask you about these

22   percentages in Table 6. So under each category and

23   each box, you have a total number and you have a

24   percentage.

25   Can you just tell me what the numerator

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1   and denominator are for these percentages?

2   A.   Sure, sure. You read it horizontally,

3   right? So they should add up to 100 percent. So

4   whatever the number is here, say white dems, you

5   just divide that number by the total.

6   The total, obviously, you add up the

7   whole row. In this first row, it's the core.

8   That's how we got the percentage.

9   Q.   Okay. So the 11 -- let's take black

10   Democrats in the core, for example.

11   11.1 percent, that's the percentage of

12   black Democrats in the core VTDs out of the total

13   population of those VTDs; is that correct?

14   A.   Out of the total that you add up here,

15   meaning in the row, in this first row, you add them

16   up to a total. And then you use the 10,121 to

17   divide that total, yes.

18   Q.   Okay, got it. So I'm just trying to

19   confirm, that's the percentage of black voters in

20   the core VTDs?

21   A.   Correct.

22   Q.   It's not the percentage of all black

23   voters in District 1 who are in the core VTDs; am I

24   right about that?

25   A.   Yes. No. I mean, you are right.

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1   Q.   Okay.

2   A.   I mean, yeah, again, this is based on

3   the participation in the 2018 gubernatorial primary

4   election. That's all I did, so...

5   Q.   Okay. So is District 1 a majority

6   white district?

7   A.   Yes.

8   Q.   And would you then expect for white

9   voters to have higher percentages than black voters

10   in these categories?

11   A.   Yes, certainly. And you even expect

12   that the white Republicans are more than Democrats,

13   right? So it's, like you said earlier, a

14   Republican district, because traditionally you had

15   Republican winners in this particular district.

16   But there is the subtle nuance, right?

17   That's what my report is all about.

18   So let's just take the white Republican

19   category here in the core. It's 70.3 percent.

20   So, granted, there are more whites in

21   the district to begin with, but, again, districts

22   are based on how you draw them.

23   Let's just say -- let's just take your

24   assumption. We'll try to keep the original CD 1.

25   And original CD 1, or benchmark CD 1, has a white

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1   majority. So obviously you will have a lot of

2   white Republicans to be put in this new CD 1 as the

3   core.

4   So 70.3 percent is a very reasonable

5   expectation based on those rationales I just laid

6   out. However, my Table 6 is not just about one

7   row. It's about how VTDs are moved into and moved

8   out, not just simply keep in the core.

9   So you go down to "white Republicans

10   into" category, you see declined right there,

11   right? So meaning the into part. You don't move a

12   lot of white Republicans into this category. How

13   so? Well, 70.3 percent declined to 46.8 percent.

14   That's a lot of drop.

15   So, meaning, we don't want to mess with

16   other districts as far as move into and move out as

17   much as we try to keep the core of white, which is

18   70 percent. So that's why the Republican category,

19   you see these variations. But that's not the whole

20   picture yet.

21   What about black Republicans? Well,

22   black Republicans overall are a low percentage, but

23   the "into" part, you have 7.1. So more likely you

24   have some more white Republicans go into CD 1,

25   proportionally speaking, right?

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1   So you do the same comparison

2   vertically. This is exactly what we call control

3   comparison. You see, wow, when you hold

4   Republicans consistent, whether you're white or

5   black matters. And you do the same thing for the

6   Democrat side; whether you're white or black

7   matters.

8   Why? Because the core has a base that

9   does not reveal how their fate will be as far as

10   into and out are concerned. And it's so clear.

11   The blacks more disproportionally become target of

12   movement, because, in the core, there are only 11.1

13   percent of black Dems and 1.4 percent black Reps.

14   But the into and out category, they are much

15   larger. It just tripled, and more, even for black

16   Republicans. So blacks are more likely to be the

17   target of movement. That's why it's not simply

18   party; it's the race that is more of the reason of

19   these redistricting processes.

20   Q.   The VTDs moved into District 1 weren't

21   in District 1 before; were they?

22   A.   Yes.

23   Q.   They were in District 1, the ones that

24   moved into District 1?

25   A.   Could you repeat your question so that

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 1      I understand clearly?

 2            Q.    Sure.   You have this category of VTDs

 3      moved into District 1, right?

 4            A.    Yes, the VTDs that are brand new to CD

 5      1, correct.

 6            Q.    Where did those VTDs come from?

 7            A.    Again, there's no location analysis in

 8      this table.

 9            Q.    Okay.   Dr. Liu, using your table, is it

10      possible to calculate the total number of black

11      voters moved into District 1 and the total number

12      of black voters move out of District 1?

13            A.    This table alone is about race versus

14      party based on the 2018 gubernatorial election, so

15      you cannot use this table to get that, but my

16      Ansolabehere report, in the next section, do give

17      you the total numbers that you are asking about.

18            Q.    Let me ask -- I think I made my

19      question too complicated.   Let me ask it a simpler

20      way.

21                  If I look in the into row, for example,

22      and I add the total number of black Dems and the

23      total number of black Republicans, will that tell

24      me the total number of black voters from the 2018

25      gubernatorial primary that were moved into District
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 1      1?

 2              A.   Yes --

 3              Q.   Okay.

 4              A.   -- exactly.

 5              Q.   Okay, thank you.

 6                   And, similarly, if I did that with the

 7      out category, that would tell me the total number

 8      of black voters from the 2018 gubernatorial

 9      primaries who were moved out of District 1, right?

10              A.   Yes, that's absolutely right.

11              Q.   Okay, great.  And then could I do the

12      same thing with Republicans and Democrats if I add

13      up those --

14              A.   Yeah, yeah.

15              Q.   -- numbers and all of that good stuff.

16                   Okay, thank you.

17              A.   You're welcome.

18                   MR. GORE:  Let's go off the record for

19              just a moment.

20                   (A brief recess was held.)

21      BY MR. GORE:

22              Q.   Dr. Liu, did you talk to your counsel

23      during the break?

24              A.   Nope.

25              Q.   Let's go back to talking about your
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 1     expert report.

 2                 I would like to move on now to Table 7

 3     on Page 18.

 4           A.   Okay.

 5           Q.   And I have just, I hope, a couple

 6     questions on that.

 7           A.   Okay.

 8           Q.   Did you conduct exactly the same

 9     analysis for Table 7 as you did for Table 6?

10           A.   Yes.

11           Q.   So you used -- did you use the same

12     dataset?

13           A.   Yes.

14           Q.   Did you use the same conditions?

15           A.   Yes, everything the same.

16           Q.   Was there anything different about your

17     analysis in Table 7 than the analysis you did in

18     Table 6?

19           A.   You mean the way to do it or the result

20     of it?

21           Q.   I mean the method.

22           A.   The method is the same.  Everything is

23     the same.

24           Q.   So everything you told me about the

25     method for generating Table 6 is also true for the
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 1      method for generating Table 7; is that right?

 2               A.   Correct.

 3               Q.   Okay, thank you for confirming that.

 4                    I'm actually trying to slash several

 5      pages of my questions and I think you have just

 6      helped me with that, so thank you.

 7               A.   Thank you.  Sure.

 8               Q.   Dr. Liu, your report notes that the

 9      Plaintiffs challenged District 1, 2, and 5 in their

10      complaint; is that right?

11               A.   Yes.

12               Q.   Did you conduct this empirical study

13      analysis for District 5?

14               A.   Yes, I did.

15               Q.   And what was the result of that

16      analysis?

17               A.   As I reported in this report, CD 1 and

18      CD 2 showed, clearly, race is a factor.  It has to

19      be explained in terms of how the enacted plan was

20      put together.  However, for CD 5, I didn't find

21      either way, support or not support, across all of

22      these categories.  I don't see huge differences, so

23      I just cannot use CD 5 to draw the same conclusion,

24      because the data is not sufficient to show either

25      way.
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1   Q.   Can you point to me where in your

2   report you said that about CD 5? I may have missed

3   it if it's in here.

4   A.   I apologize, no, I didn't say that in

5   my report. I was just saying that my report used

6   the CD 1 and CD 2; however, after I did CD 1 and CD

7   2, using the same method for CD 5, I didn't find

8   anything substantive to report. So that's why it's

9   not here in this report, yeah.

10   Q.   Okay. Did you conduct this analysis on

11   any districts in the benchmark plan?

12   A.   The benchmark took place, obviously,

13   before 2018, the gubernatorial election. That's

14   the election I used. So, no, it wouldn't even fit.

15   Q.   Did you conduct this analysis on any

16   districts in the Harpootlian plan?

17   A.   No, because the argument is about the

18   enacted plan.

19   Q.   Did you conduct this analysis on any

20   districts in Plaintiff plan 1?

21   A.   No, I didn't.

22   Q.   Did you conduct this analysis on any

23   districts in Plaintiff plan 2?

24   A.   No, I didn't.

25   Q.   Let's move on to the verification

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 1        study, which you've mentioned before, with Dr.

 2        Ansolabehere.  That's my best attempt.

 3               A.   Yes.

 4               Q.   Will you explain this analysis briefly?

 5               A.   So after I conducted my

 6        race-versus-party analysis, I went ahead and did a

 7        verification study -- so this is just additional --

 8        to see, by using a different method, do I come up

 9        with the same conclusion.

10               And the Ansolabehere approach is a

11        relatively recent tool developed by a very esteemed

12        social scientist at Harvard to look at the

13        difference between race and party, or race versus

14        party, from the angle of how the districts are

15        shaped up from potential voters.

16               So the idea is to look at potentially

17        who are the voters from a particular region that

18        this district can be drawn -- drew from -- and then

19        see, if it's a random draw, race is not a factor,

20        then you should have statistical results that are

21        then consistent with that.

22               Or, actually, race is a factor, meaning

23        a particular racial group is more likely to be put

24        in the district, as opposed to others.

25               So it's a standard way of doing science
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 1      so I figured it was useful in this particular

 2      lawsuit and so I went ahead and I did analysis and

 3      the results are consistent with what I found; that

 4      is, black voters are definitely much less likely to

 5      be put in CD 1 than other racial groups, to begin

 6      with.

 7                    And then in terms of the partisan

 8      differences, we do control.  I mean, I did control

 9      Republicans and Democrats based on the same data I

10      used before.

11                    And I found, look, the result also is

12      consistent.  That is, especially black Democrats

13      are less likely to be put in the district from that

14      potential area of draw, of voters, that is what

15      they call envelope.

16                    Okay.  So I did the same analysis for

17      CD 2, and the result is also consistent.  And

18      blacks are less likely than whites to be put into

19      CD 2.  And I also run party affiliation, as well,

20      by using the same data.  And, again, it showed the

21      same result.

22                    So, overall, this result confirmed that

23      it is the consistent pattern of dispersing blacks

24      into districts -- into different districts -- so

25      that they cannot form a formidable election block
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1   so that their ability to influence election

2   outcomes is diminished. So that's why I did this

3   analysis as well.

4   Q.   Thank you for all of that explanation.

5   A.   You're welcome.

6   Q.   On Page 19 of your report, under the

7   heading, "A Verification Study of Race Versus

8   Party," the second sentence in the first paragraph

9   says, "This verification study is derived from an

10   approach adopted by Dr. Stephen Ansolabehere."

11   A.   Yes.

12   Q.   How is the method that you used in your

13   verification study different than

14   Dr. Ansolabehere's approach?

15   A.   Thank you for that great question.

16   Yes, I put the sentence here to show

17   that this is not exactly the original approach he

18   used, because for the North Carolina lawsuits, he

19   used the party registration. Indeed, he did have

20   party registration data; whereas, in South

21   Carolina, I couldn't find such data. And that's

22   why we went through the discussion of the 2018

23   gubernatorial election.

24   But it's the same logic, meaning the

25   envelope, the idea of envelope, as opposed to the

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1   real district drawn, so the envelope idea is from

2   him. That's why I borrowed his idea.

3   Q.   Okay. So other than the fact that

4   Dr. Ansolabehere used party registration and you

5   used voter data from an election, are there any

6   differences, other differences, between your method

7   and his approach?

8   A.   That's a good question. I cannot speak

9   for him completely. I read his North Carolina

10   report and I don't recall everything he said.

11   Maybe there are some tiny differences,

12   or even major differences, but I don't have any

13   recognition of his point.

14   I learned from his report and I think

15   it's a pretty neat and factually powerful tool

16   based on the rules of social science inferences.

17   So, yeah, again, I don't want to say on

18   record that there's no difference between us at

19   all, but I borrowed his approach and that's the

20   best I can say.

21   Q.   And I think you said that this approach

22   again controls for race and politics; is that

23   right?

24   A.   Race and party.

25   Q.   Okay. But it doesn't control for any

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 1   other factors; is that right?

 2   A.   Yes, my responsibility, especially for

 3   this original report, is to distinguish the factor

 4   of race versus the factor of party, yes.

 5   Q.   And so this doesn't control for

 6   traditional districting principles, correct?

 7   A.   Yes, even though they are related. But

 8   as I stated earlier, community of interest,

 9   obviously, racial interest for black voters, that's

10   part of a broad concept of community of interest.

11   But other than that, compactness, or

12   boundaries and all of those principles, this report

13   doesn't say, doesn't address those.

14   Q.   And it also doesn't address core

15   preservation, right?

16   A.   Well, oh, that's the point I wanted to

17   kind of remind you and the counsels here today,

18   because it is indeed a verification study, right?

19   So it's just, for me, primarily useful for checking

20   what I did in the earlier analysis, whether I can

21   use this for support or confirm what I found.

22   But in terms of the core, I do believe

23   this approach helps us, also understanding how the

24   core is protected, because the idea of envelope is

25   that here you have all of these counties which are

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 1      very large, as a whole, collectively speaking, but

 2      which counties are finally selected as the main

 3      core of new district?

 4                  I think that approach itself speaks to

 5      the question of the principle that the Senate and

 6      House mentioned about how to respect the tradition,

 7      because, in my view, if the envelope shows a

 8      certain racial composition, and yet eventually the

 9      district turns out to be very different from the

10      envelope's proportion of voters in terms of race,

11      then one has to ask questions about what tradition

12      are we talking about.  Is it only boundary

13      tradition, or racial?  To me, that's a very

14      important question.  So, again, this report focused

15      on race versus party, so that's not essential to my

16      analysis at all.

17           Q.   And does this analysis control at all

18      for location?

19           A.   No, it didn't, but, again, there's

20      nuance, obviously.  The idea of envelope, it is

21      based on idea of location, meaning all of these

22      counties must be in certain locations to

23      collectively fall in an envelope.

24                  So on that part, it has something to do

25      with location, but it's not a location analysis, as
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 1     you asked earlier today in this deposition, I

 2     didn't do any analysis of whether a particular

 3     place is a border versus like center or a coastal

 4     area versus the heart of South Carolina.  I never

 5     did anything like that for the --

 6            Q.   Did you do any analysis of whether VTDs

 7     and voters were inside or outside of the benchmark

 8     district?

 9            A.   No, I didn't.

10            Q.   Now, on Page 19, we're talking about

11     enacted CD 1.  This is in the second paragraph of

12     this section?

13            A.   Yes.

14            Q.   You say, Voters are from six counties

15     of South Carolina, Beaufort, Berkeley, Charleston,

16     Colleton, Dorchester and Jasper.

17                 And those are --

18            A.   And Beaufort.

19            Q.   Yeah, the native South Carolinians keep

20     correcting me.  They tell me it's Beaufort, but I'm

21     trying to learn.  You and I, neither of us has the

22     privilege of being from South Carolina, so I'm

23     comfortable however you want to say it.

24                 So those six counties are the envelope

25     for District 1; is that right?
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 1              A.    Yes.

 2              Q.    Do you know whether all of those

 3      districts could be placed in a single -- all of

 4      those counties could be placed in a single district

 5      without violating the one-person-one-vote

 6      requirement?

 7              A.    It must be much bigger than a single

 8      district.  And, again, I'm not a demographer, so I

 9      don't have the data here to give you an affirmative

10      answer one way or another, but my imagination is

11      that the number of voters in all six must be larger

12      than only one district, if that's the question.

13              Q.    Yes, thank you.

14                    And were some of those counties split

15      in the benchmark plan?

16              A.    Yes.

17              Q.    All right, Dr. Liu, I am trying to show

18      you Mr. Trende's rebuttal report.

19              A.    Should I go there?

20              Q.    Yes, please, go to that, if you don't

21      mind.

22              A.    Okay, okay, let me change my screen.

23                    Okay, I have it in front of me.

24                    (EXHIBIT 4, Rebuttal Report of Sean P.

25              Trende, was marked for identification.)
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 1      BY MR. GORE:

 2              Q.   It's Tab 10 in your folder.  I have

 3      marked it as Exhibit 4 and I would like to go --

 4              A.   Are you talking about -- let me see.

 5      Okay, okay, yeah, go ahead.

 6              Q.   So let's go to page -- oh, I don't

 7      know -- 9, maybe.

 8              A.   Okay.

 9              Q.   I want to look at this Colleton County

10      Precinct's Benchmark Assignments.  There's a map on

11      Page 9.  Can you see that?

12              A.   I have a table on Page 9.  Of his

13      report, right?  Not my report, his report?

14              Q.   His rebuttal report, which is Tab 10.

15              A.   Oh, rebuttal report, I see.  I went to

16      his original report.  Oh, here we go.

17              Q.   Okay.  Okay, Page 10.

18              A.   I've got it now.

19              Q.   Are you on Page 9?

20              A.   Okay, Page 9, yes.

21              Q.   Okay.  And there's a map here that has

22      a title Colleton County Precincts Benchmark

23      Assignments.  Do you see that?

24              A.   Okay, yes, I do, yes.

25              Q.   So Colleton County was split in the
```

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1   benchmark plan and this map is showing that Edisto

2   Beach and part of the Green Pond precinct down here

3   in purple were in District 1 and the rest of the

4   county was in District 6.

5   Have I accurately described that?

6   A.   I do see it.

7   Q.   Okay.

8   A.   Yes, I do see it, yes.

9   Q.   Under your envelope analysis, Colleton

10   County would be included in the envelope for

11   District 1 and District 6, correct?

12   A.   Yes.

13   Q.   And so the Edisto Beach precinct at one

14   end of the county and the Berea-Smoaks precinct of

15   the other -- that's B-e-r-e-a, hyphen

16   S-m-o-a-k-s -- both of those precincts are in the

17   envelope for District 1 and District 6, correct?

18   A.   Yes.

19   Q.   How would it be possible to include

20   both Edisto Beach and Berea-Smoaks in the same

21   district?

22   A.   How is it possible to -- could you

23   repeat that part?

24   Q.   Sure.

25   Could you draw a district that includes

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 1      Edisto Beach and Berea-Smoaks in the same district

 2      but not the rest of Colleton County?

 3                    MR. CUSICK:  Objection as to form.

 4                    THE WITNESS:  I don't even know how to

 5             answer that question.  I'm not a mapmaker.

 6      BY MR. GORE:

 7             Q.   Would it be -- if a map drawer drew a

 8      district that included Edisto Beach and

 9      Berea-Smoaks but no other precinct in Colleton

10      County, would that district be contiguous?

11                    MR. CUSICK:  Objection to form.

12                    THE WITNESS:  That's not my expertise.

13      BY MR. GORE:

14             Q.   Would a map drawer be required to

15      include other precincts from Colleton County in

16      that district if the map drawer wanted to place

17      Edisto Beach and Berea-Smoaks in the same district?

18                    MR. CUSICK:  Objection as to form.

19                    THE WITNESS:  Again, I'm not here to

20             testify about how a particular map should be

21             drawn in whatever way.  That's beyond my

22             field.

23      BY MR. GORE:

24             Q.   And when you did the envelope analysis,

25      I think you said earlier you didn't consider
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 1      contiguity, correct?

 2              A.   Again, that's not my specialty and I'm

 3      not here to testify for that.

 4              Q.   And so you don't have a view one way or

 5      the other whether Edisto Beach and Berea-Smoaks

 6      could be included in a district consistent with

 7      contiguity principles?

 8                  MR. CUSICK:  Objection as to form.

 9                  THE WITNESS:  Again, it's not my

10              specialty, so I cannot give you any firm

11              answer one way or the other.

12      BY MR. GORE:

13              Q.   All right.  I think I would like to go

14      back, if I can, to your report.  Bear with me for

15      one second.

16              A.   Yes, I'm here.

17              Q.   Thank you.  Bear with me for one

18      second.

19              A.   Sure.

20              Q.   So Table 8 shows an enacted CD 1 and

21      assignments of voters from the envelope by voting

22      age population; is that right?

23              A.   Yes.

24              Q.   In this far right-hand column, "Percent

25      of the group in envelope assigned to district," can
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1   you just tell me what the numerator and the

2   denominator are for those percentages?

3   A.   Yeah, that is very simple.   That's

4   just, for a particular category, what's the

5   percentage in the envelope, obviously denominator

6   and the numerator, obviously the number in the

7   district.   So then you can compare across different

8   categories which one is more in favor to be put in

9   the category, in the district.

10   Does that explain?

11   Q.   Yeah, do you divide column -- sorry.

12   A.   Go ahead.

13   Q.   Do you divide the second column number

14   by the first column number to get this percentage?

15   A.   Yes, that's correct.

16   Q.   Thank you.

17   And you have done a similar thing in

18   Table 9 with respect to voters by party primary and

19   also race here, it looks like; is that right?

20   A.   Yes, that's exactly right.

21   Q.   And then Table 10, is it the same

22   analysis for CD 2 as you had for Table 8 in CD 1?

23   A.   Yes.

24   Q.   And, similarly, Table 11, is that the

25   same method as what you had in Table 9 for CD 1?

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1   A.   Yes, the same.

2   Q.   Did you conduct this analysis for

3   District 5?

4   A.   Yes, I did.

5   Q.   And what was the result of that

6   analysis?

7   A.   Yeah, as I stated earlier, the same

8   analysis, different review, the same results, so I

9   cannot draw the same conclusion for CD 5.

10   There might be some other explanations

11   for why CD 5 violates black voters' equal

12   protection, but not in this analysis. There's no

13   empirical data that I can rely on for CD 5 in the

14   same category.

15   Q.   Did you conduct this analysis on any

16   district in the Harpootlian plan?

17   A.   No, I didn't.

18   Q.   Did you conduct this analysis on any

19   district in Plaintiff plan 1?

20   A.   No, I didn't.

21   Q.   Did you conduct this analysis on any

22   district in Plaintiff plan 2?

23   A.   No, I didn't.

24   Q.   Bear with me for one second.

25   Dr. Liu, I would like to go back to

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1   your rebuttal report, which I marked as Exhibit 3

2   and I believe sent to you as Tab 3.

3   Do you have that in front of you?

4   A.   Yeah, I have it in front of me.

5   MR. GORE: And if I have done this

6   right, it should be up on the screen.

7   Can you see that, John, in Exhibit

8   Share?

9   MR. CUSICK: I've just been following

10   on a local copy, but I have the document

11   here, yes.

12   MR. GORE: Okay, that's fine. I want

13   to make sure we're all on the same page.

14   BY MR. GORE:

15   Q.   Dr. Liu, why did you prepare a rebuttal

16   report in this case?

17   A.   Yes, just like almost all other cases,

18   our responsibility as an expert witness not only

19   includes our own report, but also how we reacted to

20   the counterpart, the other expert for the other

21   side.

22   So in this case, after I submitted my

23   report, I was informed by the counsel for the

24   Plaintiffs that they eventually got a report from

25   the other expert and so they sent it to me and

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1   asked whether I have any opinions. I said, after I

2   read it, I do have an opinion. And then I would go

3   to record the explanation.

4   Q.   Did you rely on Mr. Trende's report in

5   preparing your rebuttal report?

6   A.   I used his original report to prepare

7   for this rebuttal, yes.

8   Q.   And did you use any of his data?

9   A.   No, I didn't.

10   Q.   And how did you receive Mr. Trende's

11   report?

12   A.   I was sent the report by the counsel.

13   Q.   Is that by Mr. Cusick?

14   A.   Yes.

15   Q.   Did counsel send you any other data or

16   materials for your rebuttal report other than

17   everything else we've talked about earlier?

18   A.   I believe there was some articles. I

19   don't remember vividly anymore whether at the same

20   time he sent me the report, or it was afterwards,

21   but I believe there are some data and articles sent

22   by Mr. Trende.

23   Q.   Do you recall whether Mr. Trende's

24   opening report mentioned you or your report at all?

25   A.   No, I don't remember if he mentioned my

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 1     name at all.  Even two days ago I received his

 2     rebuttal, but it addressed the reports conducted by

 3     the other two experts for the Plaintiffs.

 4            Q.   Okay.  Let me ask you about Page 2 of

 5     your rebuttal report.

 6            A.   Okay, I'm here.

 7            Q.   There's a numbered list and then

 8     there's a paragraph that says, "Despite my concerns

 9     about his methodology and the data he relied upon

10     described below, Mr. Trende and I agree that the

11     enacted plan makes District 1 meaningfully more

12     Republican."

13            A.   Uh-huh, yes, yes, I see that.

14            Q.   Do you still agree with Mr. Trende on

15     that point?

16            A.   Yes, certainly Republican candidates

17     would gain more influence to make it -- to run in a

18     more favorable environment, as opposed to

19     Democratic candidates.  That will be the case, in

20     my view, if the enacted plan won, indeed will be

21     the future.

22            Q.   And you also agree with Mr. Trende that

23     the enacted plan reduces the number of split

24     counties compared to the benchmark plan, right?

25            A.   Yes, but not -- not very significant in
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    1   my view.

    2   Q.   Do you dispute Mr. Trende's calculation

    3   of core retention percentages?

    4   A.   No, I don't.

    5   Q.   Do you dispute Mr. Trende's conclusion

    6   that the enacted plan reduces the number of split

    7   precincts?

    8   A.   No, I don't. It's from 12 to 10.

    9   Q.   And do you dispute Mr. Trende's

   10   conclusion that the enacted plan results in minimal

   11   changes to the BVAPs in the districts?

   12   A.   Well, I have no opinion on that

   13   statement because, who knows, maybe a different

   14   plan may have even less change when you can even

   15   just keep the original benchmark district.

   16   So his assertion of following the

   17   principle to restore the same old boundaries, I

   18   don't get that logic at all.

   19   And I've studied the South. South

   20   Carolina has been a state that constantly is in the

   21   front of the civil rights and voting rights

   22   battles.

   23   So when he made the argument or tried

   24   to suggest that simply because this new plan keeps

   25   the same old plan, as if it's great, I completely

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1   disagree, because even the DOJ has had so many

2   cases against South Carolina.

3   So, yeah, I have obviously reservations

4   about his assertion on that particular aspect.

5   Q.   So at the bottom of Page 2, you say,

6   "As shown in Table 1 below, Mr. Trende did not

7   engage in any racially polarized voting (RPV)

8   analysis which is essential for any expert witness

9   responsible for providing empirical evidence

10   concerning the role of race in voting-rights

11   related lawsuits."

12   A.   Yes.

13   Q.   Do you know -- do you know whether

14   Mr. Trende was responsible for providing empirical

15   evidence concerning the role of race in this case?

16   A.   Well, of course he argued in his report

17   that especially by using BVAPs, B-V-A-P, as the

18   reason why this new plan actually doesn't do harm

19   to black voters, you keep the same principle,

20   respect the same principle -- that's his

21   argument -- so, um, obviously he needs to back that

22   up by empirical data, but he never did anything

23   about how voters voted along racial lines or across

24   racial lines, but do they even prefer different

25   candidates. He hasn't done anything like that at

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 1      all.  To me, that's not acceptable as an expert

 2      witness.

 3                   And he claimed he's, you know, doing

 4      all of the advanced statistical work in his

 5      graduate program, but he never did any statistical

 6      analysis of race versus party, not to mention RPV.

 7                   So that's why I wrote that here, and

 8      just to bring to light his lack of attention to the

 9      real empirical analysis, rather than just

10      justifying what the redistricting committee already

11      said, what the Complaint of the Plaintiff already

12      accused of, and he just simply repeated those same

13      old points, but with no empirical analysis.  To me,

14      that's not vigorous science at all.  That's why I

15      said those words.

16           Q.    Did Mr. Trende opine on the role of

17      race versus politics in his expert report?

18           A.    I don't understand your question.

19      Obviously he talked about, like, Biden's votes,

20      Republican advantage in CD 1, and so on, but what's

21      your exact question?  Can you repeat?

22           Q.    Well, you're saying that he didn't do

23      analysis that would enable him to offer an opinion

24      on whether race or politics explained the enacted

25      plan; I'm asking you whether he actually offered
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 1      that opinion.

 2              A.    Well, of course, he offered his

 3      opinion, and I restated, like "meaningful more

 4      Republican" in CD 1; obviously that's a part of the

 5      argument.

 6                   And then he argued -- for example, I

 7      stated in this report how the voters are moved

 8      around in Charleston and Dorchester.  And his

 9      argument is that, look, the original two counties

10      combined will give you this much of black VAP.  And

11      now this much of BVAP is moving around.  And,

12      therefore, so race is not a factor here.  Obviously

13      he has that opinion.

14              Q.    Let me ask you, let's go to Page 4 of

15      your report, and in particular Footnote 3 and you

16      talk about split precincts and split VTDs.

17              A.    Yes.

18              Q.    And you say that VTDs and precincts are

19      different.

20              A.    Yes.

21              Q.    What is the difference

22      between -- what's the difference?

23              A.    Yes, VTDs are census units, so they are

24      from the census.  Political precincts are from

25      particular localities' Election Commission, or
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1   board, whatever. So precincts are used for

2   election purposes. So these two are not

3   necessarily exactly the same thing.

4   So when he says precincts, he seems to

5   suggest they are the same as VTDs. And you have to

6   ask him about whether he differentiated between the

7   two. So what I want to say here is that actually

8   they can be very different.

9   The ACLU data team worked super hard to

10   try to match the political precincts with VTDs

11   based on a de-aggregation and then aggregation back

12   to VTD.

13   So I don't know whether he's aware of

14   that. It seems like his report doesn't address

15   those things at all. It's a little shocking, to be

16   honest. This is the first expert report I've read

17   in my more than two decades that -- that he didn't

18   address those differences at all.

19   Q.   Do you know whether South Carolina

20   precinct lines are any different than the VTD

21   lines?

22   A.   Again, you have to ask the

23   demographers, but I believe they can be different.

24   But since South Carolina has the election data that

25   are also collected at the precinct level for race

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1   as well, so South Carolina is unique in that way.

2   We usually --

3   Q.   Okay.

4   A.   Yes, okay, yeah.

5   Q.   I understand that. You've just

6   criticized Mr. Trende --

7   A.   Yeah.

8   Q.   -- for saying that precincts and VTDs

9   are the same thing, but you can't tell me that

10   they're not the same thing in South Carolina.

11   So my question is, do you know that

12   they're the same or different in South Carolina?

13   A.   The ACLU team can answer those

14   questions like that. I don't want to speak wrongly

15   about this. But it's the common knowledge that

16   they are two different units. And they can be the

17   same, but they can be also very different. So I'm

18   not the expert to give you the exact answer about

19   that. The ACLU data team provided the data for me.

20   I used their VTD rows that are matched with

21   political precincts. And they used, I believe,

22   University of Florida's shapefile to do that. But

23   I'm not an expert to answer that.

24   Q.   Did you do anything to confirm whether

25   precinct lines and VTD lines in South Carolina are

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 1      different?
 2             A.    No, I don't have a geocoding ability in
 3      my computer.  That's not my field.
 4             Q.    Okay, thank you.
 5                   Let's move on now to Pages 5 and 6 of
 6      your rebuttal report.  It really starts on Page 4,
 7      but Page 5 and 6 -- Page 5 has two tables on it,
 8      Table 2 and Table 3.
 9             A.    Yes.
10             Q.    And Table 3 shows the -- so Table 2
11      shows which counties are split in the enacted plan
12      and which districts they're split between; is that
13      right?
14             A.    Yes.
15             Q.    And there are ten split counties in the
16      enacted plan, correct?
17             A.    Correct.
18             Q.    And Table 3 shows the racial
19      composition of split counties in the enacted plan;
20      is that right?
21             A.    Yes.
22             Q.    And you point out that 7 of the 10
23      split counties have BVAPs greater than 25.28
24      percent which is the statewide BVAP.  That's at the
25      bottom of Page 5.  Is that right?
```

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1   A.   Correct.

2   Q.   Are these ten counties the highest BVAP

3   counties in South Carolina?

4   A.   I cannot give you an answer on the spot

5   right here, but some of them are, for sure, because

6   I know, for example, Charleston's the largest city

7   and Richland is a huge county, you know,

8   Greenville, these are great -- great counties --

9   but I don't know, about 10, or about 5; no, I

10   cannot give you that specific answer.

11   Q.   Okay. And, to be clear, I'm not asking

12   about the total VAP. I'm asking about the BVAP

13   percentage.

14   Are these the 10 highest BVAP

15   percentage counties in South Carolina? Do you know

16   one way or the other?

17   A.   No, at this point. I cannot give you a

18   specific answer. I may have some ranking that I

19   have in my computer, but I don't know whether these

20   ten are the top.

21   Q.   Dr. Liu, do you know how many counties

22   in South Carolina have a BVAP higher than the

23   statewide BVAP of 25.28 percent?

24   A.   Again, I cannot give you a specific

25   number.

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1   Q.   Do you know how many counties in South

2   Carolina have a BVAP below the statewide BVAP of

3   25.28 percent?

4   A.   I cannot give you a specific number

5   right now.

6   Q.   Did you examine whether the county

7   splits in these counties track racial lines?

8   A.   Would you repeat that question, please.

9   Q.   Did you examine whether the county

10   splits track racial lines?

11   A.   Track racial lines?

12   Q.   Yeah, I guess -- I think I know the

13   answer, but did you look at whether the splits of

14   these counties put black voters in one district and

15   white voters in another district?

16   A.   I cannot answer that without a clear

17   understanding of what you are asking.

18   Are you saying that black voters and

19   white voters are in one county that is split but

20   black and white are put in different counties? I

21   mean, different districts?

22   Q.   Yes.

23   A.   Is that your question?

24   Q.   Yes, yes.

25   A.   Okay, I don't know. Obviously, for

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1   example, Richland, there are black voters that are

2   kept in District 2 and white voters are moved into

3   District 6, but I don't know categorically are

4   they, like, separated completely? I have no idea.

5   Q.   And did you control for any other

6   factors in these counties?

7   A.   You mean in this table --

8   Q.   Yes.

9   A.   -- did I control?

10   Q.   Yes.

11   A.   Obviously in this table I only give you

12   the percentages of black voters as opposed to white

13   voters, so no other factors at all.

14   Q.   And on Page 6, Figure 1, can you

15   explain to me what this is depicting?

16   A.   Yes, so with the argument of keeping

17   the counties whole as a reason for how their

18   enacted plan was produced, I went ahead and

19   analyzed what are these split counties, as opposed

20   to the non-split counties, both statistically and

21   visually.

22   So I first show you, in the split

23   counties, what's the ratio of black voters versus

24   white voters, and other voters, those three

25   categories here, for the split counties, and then

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1   look at the non-split counties. So these bars show

2   how the two categories -- one is split, the other

3   is non-split -- the racial compositions. And then

4   I used a statistical test to see whether, indeed,

5   the two categories, split versus non-split, would

6   make race actually a big factor, and, indeed,

7   that's what I thought.

8   Q.   Dr. Liu, I would like to ask you about

9   Page 7 of your rebuttal report next.

10   A.   Okay.

11   Q.   And you call this the, "Misleading

12   Findings and Conclusions of the Trende Report on

13   the Role of Partisan Gerrymandering."

14   A.   Yes.

15   Q.   Did Mr. Trende use the phrase "partisan

16   gerrymandering" in his report?

17   A.   Again, I don't recall the exact word,

18   but I just quoted earlier that Republican advantage

19   in CD 1. So clearly he's using the argument that

20   partisan gerrymandering is okay.

21   And for the partisan -- for CD 1 to be

22   constructed in that way, it's okay, because the

23   Supreme Court accepts the partisan gerrymandering

24   practice by state and local governments.

25   So that's how I read. I don't recall

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 1      the exact words of partisan gerrymandering used in

 2      his report.  He may or may not have.

 3              Q.   So the phrase "partisan gerrymandering"

 4      here on Page 7 is your characterization or

 5      shorthand of your understanding of Mr. Trende's

 6      report; is that right?

 7              A.   It is his report's main argument for

 8      especially CD 1.  You say it's my interpretation.

 9      To me, it's as clear as possible that he's trying

10      to say there is gerrymandering, but it's for the

11      partisan advantage.

12              Q.   I'm just trying to understand where the

13      phrase "party gerrymandering" comes from, because

14      it's not in Mr. Trende's report.  So can you tell

15      me why you used that phrase?

16              A.   I just explained, because especially

17      concerning CD 1, which is contested by the

18      Plaintiffs, he gave all the rationales.

19                  And he went to lengths to argue, Look,

20      eventually this will give Republican advantage, but

21      he's defending that.  So that's why I used this

22      term, for him.  It's racial -- it's partisan

23      gerrymandering.

24              Q.   Dr. Liu, in your opinion, does the fact

25      that District 1 becomes meaningfully more
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 1      Republican under the enacted plan mean that the

 2      enacted plan is a partisan gerrymander?

 3                   MR. CUSICK:  Object as to form.

 4                   THE WITNESS:  Again, I -- I just

 5            explained why I used this term after I read

 6            his report, but I did my analysis

 7            independently.

 8                   It is racial gerrymandering rather than

 9            partisan gerrymandering that should be

10            explained for CD 1.  So that's as far as I

11            can go.

12      BY MR. GORE:

13            Q.   I appreciate that explanation.  I'm no

14      longer asking you about Mr. Trende's report.  I'm

15      trying to understand your view.

16            A.   Yes.  My view is it's racial

17      gerrymandering.  It's cracking of black votes in CD

18      1 in coordination with other districts, especially

19      CD 2, and how the new -- even CD 6 is constructed.

20      As a whole, it's cracking.  It's the dilution of

21      black votes and it's to disperse voters who are

22      black into different districts so that white voters

23      would always have tremendous advantage over the

24      black vote.  That's my conclusion.

25            Q.   So do you have an opinion on whether
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 1      the enacted plan is a partisan gerrymandering?

 2                     MR. CUSICK:  Objection as to form.

 3                     THE WITNESS:  Again, I don't see that.

 4               I see obviously there is correlation between

 5               party and race.  And it's well documented in

 6               American literature.  Black voters in the

 7               south prefer Democratic party.  White voters

 8               in the south prefer Republican party.  But

 9               that doesn't take away the fact that race

10               may be more important to explain how these

11               districts are drawn.  It's because of race

12               that we see partisan advantage one way or

13               another.  So the partisan advantage may be a

14               result of the race-driven redistricting

15               process.

16                     So if it's partisan gerrymandering,

17               meaning to make one party more advantageous

18               than other party, one has to show empirical

19               data to prove that.

20                     And the way to prove that is to put

21               race and party together and see which one is

22               more robust in explaining the outcome of a

23               redistricting plan.

24                     To me, the answer is very clear.  It is

25               race that should be more important to be
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1   used as an explanation rather than party.

2   So I don't think it is due to partisan

3   gerrymandering that finally we see in the

4   enacted plan.

5   MR. GORE: Thank you. At this point I

6   would like to propose a five-minute break so

7   I can review my notes real quick and I may

8   or may not have more questions for Dr. Liu.

9   (A brief recess was held.)

10   BY MR. GORE:

11   Q.   Dr. Liu, did you talk to Plaintiff's

12   counsel during the break?

13   A.   No, I didn't.

14   MR. GORE: Dr. Liu, I have no further

15   questions for you.

16   MR. CUSICK: I think it's safe to say

17   there's none from the election Defendants.

18   I guess, Andrew, do you have any

19   questions?

20   MR. MATHIAS: Yeah, I think just a

21   couple.

22   EXAMINATION

23   BY MR. MATHIAS:

24   Q.   Dr. Liu, Andrew Mathias. I represent

25   the individual House Defendants.

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1   Thank you for sitting down again. We

2   met at the last deposition that you provided in

3   this case.

4   A.   Yes, my pleasure.

5   Q.   My pleasure too.

6   Do you have any interaction with the

7   other experts for the Plaintiffs in this case?

8   A.   No. Actually, it was two days ago when

9   I received all of the exhibits. Then I read,

10   obviously, Mr. Trende's rebuttal. Just at that

11   moment, I realized the other two scholars that

12   Mr. Trende's rebuttal addressed, that was the first

13   time I even heard, so I never had any contact with

14   those other experts at all.

15   Q.   Okay. You had mentioned a -- I think

16   you called it a data team from the ACLU; is that

17   right?

18   A.   Yes, yes.

19   Q.   Is it true that all of the data you

20   used in generating your report came from that data

21   team?

22   A.   Yes.

23   Q.   Do you know what sort of methods they

24   used to gather their data?

25   A.   I asked them to document it. I think

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1   they did. They had like a detailed list of how to

2   de-aggregate and then aggregate, how to match, and

3   each data source, so on and so forth. So that's

4   pretty detailed.

5   And I know all the sources they

6   mentioned, like Harvard data archives and

7   University of Florida election science data about

8   shapefiles, all of these are established public

9   domain sources, so I trust them very much. But I

10   never participated in their data processing at all,

11   so I cannot speak for how they did it.

12   Q.   So I would have to ask one of them how

13   they did it if I wanted to ask those questions?

14   MR. CUSICK: Objection to form.

15   THE WITNESS: Yeah, yes. I'm not the

16   person to answer those questions.

17   BY MR. MATHIAS:

18   Q.   And I think you said the name you

19   remembered was Benjamin but couldn't recall his

20   last name?

21   A.   Uh-huh.

22   Q.   Is it just, so the record is clear --

23   A.   Yeah.

24   Q.   Do you recall that last name now?

25   A.   No, it's been a long day and maybe I

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     1   can go back to my e-mail and say, Wow, yes, here is

     2   the last name, but at this point I cannot give it

     3   to you.

     4   Q.   You said that the data team compiled a

     5   document that listed their methods and sources.

     6   Did you receive that document from

     7   them?

     8   A.   Yes, I did. That's why I attached them

     9   as Appendix III, yes, of my report.

    10   Q.   Okay. So that document is an appendix

    11   to your report, correct?

    12   A.   Yes, yes.

    13   Q.   Okay. How many times do you think you

    14   interacted with the ACLU data team, or just

    15   Benjamin?

    16   A.   I gather probably three, four times

    17   that we had a common e-mail thread; by that, I mean

    18   between counsel, the data team and me. We talked

    19   about my data need and I answered and stuff like

    20   that.

    21   And I also believe that we had maybe a

    22   couple of Zoom conferences, where I could raise the

    23   question about, you know, data processing and stuff

    24   like that, and they answered. So, I don't know,

    25   maybe a total of five times.

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 1            Q.   Would it be your assumption that the

 2      other experts in this case for the Plaintiff also

 3      received data from the ACLU data team?

 4                 MR. CUSICK:  Objection as to form.

 5                 THE WITNESS:  I have no idea.

 6      BY MR. MATHIAS:

 7            Q.   But it could have happened?

 8                 MR. CUSICK:  Objection as to form.

 9                 THE WITNESS:  I have no idea.

10      BY MR. MATHIAS:

11            Q.   You have no idea if it happened.  Do

12      you have any idea if it could have happened?

13                 MR. CUSICK:  Objection as to form.

14                 THE WITNESS:  My data are what I need

15                 and the data are in the form I need, like

16                 the columns, with all of the variables I

17                 need.  I don't know how the other experts

18                 work whatsoever.  It was the first time I

19                 read the rebuttal to their reports.  I don't

20                 even know what they put in their original

21                 reports, so not to mention how they analyzed

22                 them.  So I don't know what kind of data

23                 they used.

24                 MR. MATHIAS:  Just one second.

25      BY MR. MATHIAS:
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 1   Q.   Do you know the name Sonia Sanchez?

 2   A.   I don't recall.

 3   Q.   Okay. And, again, just to confirm, you

 4   didn't have any graduate students or TAs or anybody

 5   affiliated with your university help you with your

 6   report?

 7   A.   No, actually, I haven't been in my

 8   office for so long. I've been isolated. And all

 9   of my teaching is online and I have never had an

10   assistant interaction for at least two years, since

11   Covid, so no assistant whatsoever was used.

12   Q.   And you mentioned that you've been

13   involved in the redistricting process for two

14   decades.

15   In your prior work, have you ever

16   gathered data on your own for use in writing a

17   report?

18   A.   Well, I believe I had, you know,

19   downloaded data from some sources -- I don't recall

20   for litigation or not -- but usually, like I said,

21   there is always a data team. You know, right now

22   I'm working with LDF. Sometimes I work with other

23   entities; they always have a data team.

24   But I did download data. I actually

25   did download data for my own research on South

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1   Carolina; I went to their Election Commissions,

2   but, yeah, I mean, usually there is always a data

3   team I work with.

4   Q.   Okay. And you did not make any effort

5   to go behind their data, so to speak, and check and

6   make sure it was accurate?

7   A.   I verified the sources, like the ACLU

8   said, okay, the Harvard data archive, I did go to

9   their website and look at it, and it's indeed a

10   legit, highly-established and frequently-used

11   source. Things like that.

12   But I never, like, collect data and

13   then double check on whatever I was given by the

14   data team of ACLU.

15   So, I guess, does that answer your

16   question, hopefully.

17   Q.   Yeah, I think so.

18   So you don't know one way or another

19   whether the data was manipulated prior to your

20   receipt of it?

21   MR. CUSICK: Objection as to form.

22   BY MR. MATHIAS:

23   Q.   You can answer.

24   A.   No, I don't know. I mean, whatever

25   data I received is highly and very well documented.

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 1      I have no reason to be skeptical one way or

 2      another.  The ACLU is a tremendous institution and

 3      their data team is widely respected, so I have no

 4      skepticism whatsoever of contaminated data.

 5              Q.   But the data team chose what data to

 6      give you, even if it was just simply straight from

 7      another source; is that right?

 8                  MR. CUSICK:  Objection as to form.

 9                  THE WITNESS:  Yeah, I don't even

10              understand your -- I mean --

11      BY MR. MATHIAS:

12              Q.   I will ask it a different way.  They

13      gave you data that they, I will say, harvested.

14      You did not tell them what data you needed,

15      correct?

16                  MR. CUSICK:  Objection as to form.

17                  THE WITNESS:  It is very common, for

18              all of us in this field, for the RPV

19              experts, we need certain data and the ACLU

20              data team certainly is aware of our need.

21              Sometimes when we have some specific

22              question about a particular election or a

23              particular set of demographic variables,

24              like any part-black or, you know,

25              Hispanic-black, questions like that, we do
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1              raise and communicate and clarify, things of

2              that nature.

3                   But my data is just standard form.

4              It's election outcome and racial data.  So

5              all data people know what we need.  So I

6              don't need to instruct them, like, Okay, go

7              ahead and collect this data for me, because

8              they know what they are doing.

9     BY MR. MATHIAS:

10             Q.   Are you aware that the ACLU calls what

11    you referred to as the data team its analytics

12    team?

13                  MR. CUSICK:  Objection as to form.

14                  THE WITNESS:  I have no idea how

15             internally they work.

16    BY MR. MATHIAS:

17             Q.   Okay.  Would you believe that the

18    members of the analytics team are highly educated?

19                  MR. CUSICK:  Objection as to form.

20                  THE WITNESS:  I have no way to know, I

21             never communicated with them one way or

22             another, other than what counsel put

23             together in an e-mail or whatever, Zoom.

24                  I never even raised the question about

25             where they are from or how they are educated
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 1              or things of that nature.  I never had a

 2              chance to do that.  I mean, it never crossed

 3              my mind.

 4     BY MR. MATHIAS:

 5              Q.   Right.  I'm looking at a Twitter

 6     announcement from 2019 and it appears that there

 7     were 13 members of the ACLU analytics team.

 8                   Do you have any reason to doubt that?

 9                   MR. CUSICK:  Objection as to form.

10                   THE WITNESS:  I have no knowledge

11              whatsoever about how their team is composed

12              and sustained and evolved.  I mean, I'm in

13              no position to answer any question about

14              that kind of inquiries.

15     BY MR. MATHIAS:

16              Q.   Can you think of any reason why the

17     ACLU would employ 13 highly educated individuals to

18     simply download and transmit data to you?

19                   MR. CUSICK:  Objection as to form.

20                   THE WITNESS:  I cannot answer that.

21              I -- I don't -- I don't, again, question

22              anything --

23     BY MR. MATHIAS:

24              Q.   Right.

25              A.   -- other than they need to provide me
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 1      the documentations about the data I received.  So

 2      that's all I've done.

 3             Q.   Isn't it more likely that the ACLU

 4      employs 13 highly educated members of this

 5      analytics team to decide what data you were to view

 6      and use in formulation of your report?

 7                  MR. CUSICK:  Objection as to form.

 8                  THE WITNESS:  I don't know how to

 9             respond to that, but, you know, the data

10             they gave to me looks in perfect shape, and

11             they are what we do; I'm an expert witness

12             for RPV, effectiveness analysis and so on.

13      BY MR. MATHIAS:

14             Q.   So in order for me to learn anything

15      about how this data is collected and given to you,

16      I would have to ask the member of the data team, as

17      you call it; is that right?

18                  MR. CUSICK:  Objection as to form.

19                  THE WITNESS:  Again, what you want to

20             know, how do you know, that's beyond me.  So

21             I don't know.  I would answer all I know is

22             what I know of the data team and the

23             relationship I have with them.  So I don't

24             know how to address your question, though.

25      BY MR. MATHIAS:
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 1              Q.   But the people that gave you the data

 2     would presumably know how they gathered the data,

 3     right?

 4                   MR. CUSICK:  Objection as to form.

 5                   THE WITNESS:  And it's already -- it's

 6              already well documented and they give me,

 7              like, the details of the shapefile, the

 8              election file, and which year the data is

 9              from, what source.  It's just so clear to

10              me.  So I don't know what else --

11     BY MR. MATHIAS:

12              Q.   And, again, who gave you that document?

13                   MR. CUSICK:  Objection as to form.

14                   THE WITNESS:  I got it from the

15              counsel.  I asked.  I said, look, I need

16              whatever the data I work on, I need

17              documentation of how the data were

18              collected, from what sources, and how they

19              emerged.

20                   And so I got it from the counsel who

21              communicates with the data team.  I never

22              had, you know, direct personal contact with

23              any of the data team members.  So what I do

24              is already in the exhibits and you guys have

25              all seen exactly what I have done.
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1   BY MR. MATHIAS:

2   Q.   I think I must have misunderstood you.

3   You said earlier you had roughly five

4   conversations or interactions with members of the

5   data team?

6   MR. CUSICK: Objection. Sorry, my

7   apologies. I messed that up. Objection as

8   to form.

9   THE WITNESS: Yeah, I mean, when I say

10   five, I don't mean that I personally had

11   communication with data team members five

12   times, because that was your question, if I

13   understood it correctly. You asked me how

14   many total times you have communicated with

15   them. You know, I said sometimes through

16   e-mail, sometimes through, like, Zoom, but

17   that's always under instruction of counsel.

18   I never had a personal communication

19   without counsel involved, never. But only

20   through them, we communicated. Maybe five

21   times. That's what I mean.

22   BY MR. MATHIAS:

23   Q.   Okay. And the only name you can

24   remember is Benjamin; is that right?

25   A.   Yes.

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1   MR. MATHIAS: Okay, thank you. That's

2   all I've got.

3   MR. CUSICK: We can go off record for a

4   moment. I don't think I have many

5   questions. If we can just take five and I

6   will just review my notes real quickly if

7   that works for you, John and Andrew, and

8   Dr. Liu.

9   MR. MATHIAS: Yep.

10   MR. GORE: Yep.

11   (A brief recess was held.)

12   EXAMINATION

13   BY MR. CUSICK:

14   Q.   I should say still -- I think it's

15   good afternoon, Dr. Liu, for you. I just have a

16   couple of questions based on so far what you have

17   testified to today.

18   Do you recall Mr. Gore's questions at

19   the beginning of the deposition about meetings with

20   your counsel in this case?

21   A.   Yes.

22   Q.   I believe you testified that the

23   meetings were with me; do you recall that?

24   A.   Yes.

25   Q.   Just for the record purposes, did Leah

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 1      Aden attend any of those meetings?

 2              A.    Yes, she's always there.

 3              Q.    In addition to Ms. Aden and me at LDF,

 4      do you work with attorneys at the ACLU on your

 5      reports for this congressional case?

 6              A.    Sometimes there was -- I believe maybe

 7      a couple times I saw lawyers from the ACLU, or one

 8      lawyer from ACLU in attendance during our meetings,

 9      yes, but I mainly worked -- have worked -- with the

10      two counsels of LDF, Leah and you.

11              Q.    You mentioned so far a single ACLU

12      staff data member.  Do you recall that?

13              A.    Yes.

14              Q.    And did I recall your testimony that it

15      was your understanding that that staff member was

16      working for Plaintiff's attorneys, or on behalf of

17      Plaintiff's attorneys in this case?

18              A.    Yes.

19              Q.    Dr. Liu, in your two decades of

20      experience, is it common for you to rely on data

21      provided by other people involved in the case, for

22      example, Plaintiff's counsel, experts hired by

23      Plaintiffs, or other experts hired by counsel

24      representing the other opposing party?

25              A.    Yes.
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 1              Q.    How frequently?

 2              A.    Very frequent, especially when we have

 3     a timeline, uh, a very busy schedule, there is

 4     always a need of collecting as much data as

 5     possible.

 6                    So I received support from either

 7     counsel directly or some other team members, data

 8     team, so I would say more than the majority of the

 9     times.

10              Q.    Do you recall Mr. Mathias' questions

11     about whether you requested data for this case?

12              A.    Yes, I do.

13              Q.    And for the data that you relied upon,

14     was it the same type of data that you regularly use

15     in applying the methods that you used in this case

16     and others?

17              A.    Yes.

18              Q.    Is it the same type of data that's

19     typically used by you or other experts in your

20     field?

21              A.    Yes.

22              Q.    While you may have not confirmed all

23     the data you were provided, you don't regularly

24     confirm the data that you always rely upon in other

25     cases?
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1   A.   Of course, as far as the sources, I

2   tried my best to verify the sources, but I

3   personally don't verify every row of a data sheet

4   and especially I'm working -- if I was working with

5   a reputable organization such as the ACLU.

6   Q.   You don't confirm census data, for

7   example, if you relied on it?

8   A.   No.

9   Q.   And you don't confirm data posted by a

10   state agency as another example?

11   A.   Yeah, all of those data are public

12   domain such as the South Carolina Election

13   Commission data, they are there and downloadable,

14   and so I never went to the source and double

15   checked the data downloaded by, say, the data team

16   of the ACLU from the same source. So, no, I don't

17   confirm in that way.

18   Q.   Dr. Liu, you've been qualified as an

19   expert multiple times by federal courts?

20   A.   Yes.

21   Q.   And the methods you have used have been

22   relied upon by courts multiple times?

23   A.   Yes.

24   Q.   Have you been provided any report or

25   materials in this case criticizing the underlying

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 1      data you relied opinion for your expert reports?

 2               A.    No.

 3               Q.    Dr. Liu, do you recall Mr. Gore asking

 4      you a question along the lines of what type of

 5      districts are Plaintiffs seeking during the

 6      discussion about your effectiveness analysis?

 7               A.    Yes.

 8               Q.    Do you understand that right now the

 9      case is in the liability stage?

10               A.    Could you repeat that question?

11               Q.    Do you understand that right now the

12      case is currently in the liability stage and that

13      it has not been -- has not gone to trial?

14               A.    Right, correct, I do.

15               Q.    And do I recall that you testified

16      you've been involved in the remedial phase of a

17      case, or cases?

18               A.    Yes.

19               Q.    In this case, you may have a view about

20      how a remedial redrawn district or districts would

21      function for black voters, but you have not been

22      asked to do that yet, correct?

23               A.    Correct.

24               MR. CUSICK:  Those are the questions I

25               have at this time.
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1   MR. GORE: So thanks, John.

2   I don't think I have any more

3   questions, but unfortunately I do need to

4   put something on the record.

5   I'm going to send you an e-mail shortly

6   because we have not received several of the

7   documents and materials that Dr. Liu

8   testified he relied upon in forming his

9   opinions and that he testified he received

10   from counsel. Those documents and materials

11   should have been turned over at the time of

12   his report, and, at a minimum, in response

13   to a subpoena.

14   We got some documents from you

15   yesterday in response to the subpoena but I

16   have gone through those and they don't

17   include several of the items that Dr. Liu

18   said that he relied upon and that he

19   received either from you or from the ACLU

20   data team, so I'm putting that on the record

21   just as part of a reservation of rights to

22   reopen this deposition, or hold it open for

23   now, should we need to ask Dr. Liu any more

24   questions about the undisclosed documents or

25   data in this case.

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     1   MR. CUSICK: What are those materials

     2   and documents, for the record?

     3   MR. GORE: Certainly. I will tell you

     4   the ones I have on my list.

     5   He testified that there was a

     6   spreadsheet or list of congressional

     7   elections in South Carolina, which included

     8   information about candidates and links to

     9   Ballotpedia information.

    10   He also testified that he used a VTD

    11   dataset provided by the ACLU data team to

    12   generate Tables 5, 6 and 7 in his report.

    13   He testified about 2018 gubernatorial

    14   primary election data, which I understood

    15   was reconstituted by the ACLU team. In any

    16   event, we don't have any 2018 gubernatorial

    17   primary election data from you in this case.

    18   And, finally, communications from

    19   counsel transmitting Mr. Trende's reports;

    20   Dr. Liu said he relied on Mr. Trende's

    21   report in formulating his rebuttal report.

    22   You may recall that you-all leaned on

    23   us pretty heavily to produce back to you

    24   reports from your experts that Mr. Trende

    25   said he had relied upon, so we're going to

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1   insist on the same thing, including the

2   transmission e-mails which are

3   communications from counsel related to

4   Mr. Trende's report.

5   MR. CUSICK: That's helpful.

6   And just so the record --

7   MR. GORE: And --

8   MR. CUSICK: Sorry, go ahead, John.

9   MR. GORE: Let me just complete for the

10   record, those are the ones that I know about

11   that were testified to today. I don't know

12   what else is out there.

13   And so we are, as part of this ask,

14   going to ask you to double check and give us

15   a complete production with respect to

16   Dr. Liu.

17   MR. CUSICK: That's helpful.

18   Just a few clarification points.

19   The Excel spreadsheet that Dr. Liu

20   referenced was provided to you. The one

21   that he might have been referencing was a

22   document of the same data that I included

23   attorney work product on it. And so I'm

24   happy to talk about that more.

25   I know you received the documents

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1   yesterday, but I'm going to pull up the

2   Bates stamp just for the two -- the Trende

3   reports that were transmitted. It's at

4   Bates stamp number South Carolina NAACP CD

5   015419. And I'm happy --

6   And, you know, just for the record

7   purposes, we oppose keeping this deposition

8   open but happy to speak with you afterwards

9   to figure out if there's anything that

10   you're still seeking.

11   MR. GORE: Your opposition is noted.

12   The Bates number you just gave me,

13   what's that document?

14   MR. CUSICK: This is an e-mail that

15   transmitted the Trende report that was

16   signed, and Mr. Trende's CV. It's ending in

17   015419.

18   And the Excel spreadsheet, I should

19   clarify, was the same one that was produced.

20   I think it might be titled Master Candidate

21   List.

22   That was a production via the -- via

23   the Senate in this case through -- and I

24   believe it's Breeden John and John Ruth who

25   put that data together. And I'm happy to

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1   get back to you on the other ones or

2   anything else, just for the record.

3   MR. GORE: Okay. So I would just note

4   that I've identified a couple of other

5   documents that you apparently haven't

6   produced, or at least don't have Bates

7   numbers for me right now.

8   Are you telling me that the spreadsheet

9   of congressional elections is something that

10   we produced that Dr. Liu relied upon?

11   MR. CUSICK: Yes, it's the same

12   underlying data. And I'm happy to follow up

13   with you afterwards.

14   It's the Excel spreadsheet that was

15   provided yesterday, not Bates stamped. It

16   was attached as part of the zip folder file.

17   MR. GORE: Okay. Well, you sent us a

18   lot of Excel spreadsheets and I didn't see

19   any one that would qualify as having that

20   data in it.

21   And there obviously wasn't any 2018

22   gubernatorial primary election data, or the

23   VTD dataset that he says he used for his

24   tables.

25   MR. CUSICK: We'll be sure to double

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 1              check and we'll touch base.

 2                   MR. GORE:  Thank you.

 3                   If you could help us navigate through

 4          this, we would appreciate it.

 5                   MR. CUSICK:  Yes.

 6                   MR. GORE:  That's all I have.

 7                   MR. CUSICK:  Same here.

 8                   THE COURT REPORTER:  How about orders?

 9          Mr. Cusick, did you want a rough draft?

10                   MR. CUSICK:  Yes, if you don't mind,

11          electronic is fine.

12                   And do you have any sense if that might

13          be -- a chance on getting that expedited?

14                   THE COURT REPORTER:  Yeah, do you want

15          the rough draft expedited or the final

16          expedited?

17                   MR. CUSICK:  Definitely the rough

18          draft.  Can I get back to you on the

19          official, whether we need it expedited?

20                   THE COURT REPORTER:  Sure.  I will have

21          the rough draft tonight.  Our normal final

22          is two weeks.

23                   MR. CUSICK:  Yeah, that's fine.

24                   We'll take the rough tonight and

25          appreciate that.
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 1                 THE COURT REPORTER:  Sure, and how

 2         about you, Mr. Gore?

 3                 MR. GORE:  I'll take the same order as

 4         Mr. Cusick.

 5                 THE COURT REPORTER:  Rough and normal

 6         on the final?

 7                 MR. GORE:  Yes, and electronic is fine

 8         on the final.

 9                 THE COURT REPORTER:  Mr. Mathias, how

10         about you?

11                 MR. MATHIAS:  Same order if I'm able to

12         tell you tomorrow whether or not I want it

13         expedited.  Is that okay?  If not, I can

14         order it now.

15                 THE COURT REPORTER:  Sure, if you can

16         just get back to me as soon as possible,

17         that would be great.

18                 MR. MATHIAS:  I will let you know

19         tomorrow one way or the other.

20                 (The witness, after having been advised

21         of his right to read and sign this

22         transcript, does not waive that right.)

23                 (The deposition was concluded at 6:22

24         p.m.)

25
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1   CERTIFICATE OF REPORTER

2

3   I, Susan M. Valsecchi, Registered

4   Professional Reporter and Notary Public for

5   the State of South Carolina at Large, do

6   hereby certify that the foregoing transcript

7   is a true, accurate, and complete record.

8   I further certify that I am neither

9   related to nor counsel for any party to the

10   cause pending or interested in the events

11   thereof.

12   Witness my hand, I have hereunto

13   affixed my official seal this 7th day of

14   August, 2022 at Columbia, Richland County,

15   South Carolina.

16

17

18

19

20

21

22   _____

         Susan M. Valsecchi, RPR, CRR

23   My Commission expires

         December 4, 2024

24

25

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2

3   Page   Line

4

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6   EXAMINATION   4   20

7   BY MR. GORE

8   EXAMINATION   171   22

9   BY MR. MATHIAS

10   EXAMINATION   184   12

11   BY MR. CUSICK

12   CERTIFICATE OF REPORTER   196   1

13

14

15

16

17   E X H I B I T S

18

19   Page   Line

20   EXHIBIT 1, Senate Defendants   14   12

21   Amended Notice of Taking

22   Deposition Of

23   Baodong Liu, Ph.D.

24   EXHIBIT 2, Expert Report of   24   1

25   Baodong Liu, Ph.D.

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 1        EXHIBIT 3, Rebuttal Report of     32        8

 2     Baodong Liu, Ph.D. dated May

 3     2, 2022; re Congressional Map

 4     EXHIBIT 4, Rebuttal Report of     147        24

 5     Sean P. Trende

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1   John S. Cusick

2   jcusick@naacpldf.org

3   August 8, 2022

4   RE: South Carolina State Conference Of The NAACP And Scott,

           Taiwan v. Mcmaster, Henry, Et Al.

5   8/4/2022, Baodong Liu , Ph.D. (#5340037)

6   The above-referenced transcript is available for

7   review.

8   Within the applicable timeframe, the witness should

9   read the testimony to verify its accuracy. If there are

10   any changes, the witness should note those with the

11   reason, on the attached Errata Sheet.

12   The witness should sign the Acknowledgment of

13   Deponent and Errata and return to the deposing attorney.

14   Copies should be sent to all counsel, and to Veritext at

15   cs-southeast@veritext.com.

16

17   Return completed errata within 30 days from

18   receipt of testimony.

19   If the witness fails to do so within the time

20   allotted, the transcript may be used as if signed.

21

22   Yours,

23   Veritext Legal Solutions

24

25

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1   South Carolina State Conference Of The NAACP And Scott, Taiwan

      v. Mcmaster, Henry, Et Al.

2   Baodong Liu , Ph.D. (#5340037)

3   E R R A T A S H E E T

4   PAGE_____ LINE_____ CHANGE_____

5   _____

6   REASON_____

7   PAGE_____ LINE_____ CHANGE_____

8   _____

9   REASON_____

10   PAGE_____ LINE_____ CHANGE_____

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16   PAGE_____ LINE_____ CHANGE_____

17   _____

18   REASON_____

19   PAGE_____ LINE_____ CHANGE_____

20   _____

21   REASON_____

22

23   _____ _____

24   Baodong Liu , Ph.D.   Date

25

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1   South Carolina State Conference Of The NAACP And Scott, Taiwan

v. Mcmaster, Henry, Et Al.

2   Baodong Liu , Ph.D. (#5340037)

3   ACKNOWLEDGEMENT OF DEPONENT

4   I, Baodong Liu , Ph.D., do hereby declare that I

5   have read the foregoing transcript, I have made any

6   corrections, additions, or changes I deemed necessary as

7   noted above to be appended hereto, and that the same is

8   a true, correct and complete transcript of the testimony

9   given by me.

10

11   _____   _____

12   Baodong Liu , Ph.D.   Date

13   *If notary is required

14   SUBSCRIBED AND SWORN TO BEFORE ME THIS

15   _____ DAY OF _____, 20___.

16

17

18   _____

19   NOTARY PUBLIC

20

21

22

23

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Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

DISCLAIMER: THE FOREGOING FEDERAL PROCEDURE RULES ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY. THE ABOVE RULES ARE CURRENT AS OF APRIL 1, 2019. PLEASE REFER TO THE APPLICABLE FEDERAL RULES OF CIVIL PROCEDURE FOR UP-TO-DATE INFORMATION.